

Volume

1

The Ontario Economy 1982-1995

**Policy
Study
Series**

**Ontario
Economic
Council**

**Peter Dungan
Douglas Crocker
Gay M. Garesché**

Volume 1

© Ontario Economic Council 1983
81 Wellesley Street East
Toronto, Ontario
M4Y 1H6

Printed in Canada

ISBN complete 2 volume set: 0-7743-7586-8

ISBN volume 1: 0-7743-8095-0

ISSN 0227-0005

Peter Dungan is an assistant professor of economics at the Institute for Policy Analysis, University of Toronto, where he is also the models manager of the Policy and Economic Analysis Program.

Douglas Crocker is a research officer at the Ontario Economic Council.

Gay M. Garesché is an economist at the University of Toronto.

This report reflects the views of the authors and not necessarily those of the Ontario Economic Council or the Government of Ontario. The Council establishes policy questions to be investigated and commissions research projects, but it does not influence the conclusions or recommendations of authors. The decision to sponsor publication of this study was based on its competence and relevance to public policy.

Contents

Volume 1

Foreword

Acknowledgements

1

Introduction, objectives, and methods 1

2

The national projection 15

3

The Ontario projection 108

4

Altering some key assumptions 178

5

The impact of the September 1981 Energy Accord 228

Appendix A

The impact of the Al sands cancellation 241

Bibliography 276

List of tables 279

List of figures 285

Contents

Volume 2

Introduction 1

2

The national outlook - FOCUS 3

3

National industrial detail - PRISM 13

4

Provincial projection - PRISM 17

5

Provincial projection: overview of results 35

6

Results by province 46

7

Appendix - tables 60

List of Tables 157

List of Figures 159

Foreword

This book presents two complete long-term projections for the Canadian and Ontario economies. The first projection (Volume 1) extends through 1990 and was originally developed in early 1982 by Peter Dungan and Douglas Crocker. It should now be considered an 'optimistic' alternative. The second (Volume 2) extends through 1995 and was produced in September 1982 by Peter Dungan and Gay Garesché. It should be considered an average or 'normal' projection, perhaps even slightly pessimistic in the longer term. In addition, the book features an examination of the sensitivity of the economy to several policy alternatives (by Douglas Crocker in Chapter 4) and an analysis of the impact of the cancellation of the ALSANDS project (by Peter Dungan in the Appendix to Volume 1).

The focus of this study is on the long term, and it was to long-term questions that most of the research was devoted. Yet, inevitably, a long-term analysis must say something about the short term, and 1982 has proven to be a year of many short-term (it is hoped) surprises. 1982 has also seen what may be the beginning of some more fundamental shifts in the Canadian economy - most noticeably in the reduction of anticipated levels of natural resource investment and in their greater dispersion across Canada.

If important changes are occurring in an economy, economic projections will tend to change frequently. The evolution of both the immediate and long-term outlook in Canada can be traced in this book. Work on this project began in the summer of 1981, and preliminary results were presented at the Ontario Economic Council's October 1981 Conference, 'Outlook and Issues'. Comments received on the preliminary work, along with more recent data, were incorporated in the projection of February 1982, which is described in

Chapters 1-3 of Volume 1. By April 1982 the ALSANDS project had been cancelled and the Cold Lake project postponed several years (at best). A study examining the impact of the ALSANDS cancellation was then appended to the book.

By September 1982 the original study was almost ready for publication. By this point, however, the Policy and Economic Analysis Program at the University of Toronto had prepared a new base case that directly incorporated the major events since February and extended the projection through 1995. The Council felt it would be useful to publish this new work with the original study.

The differences between the two major projections are obvious - especially for the short term. Most noticeably, the February solution saw 1982 as a year of low growth, but in no way predicted the depth of the recession which eventually developed. In the longer term, the two solutions are less far apart; without a number of the major natural-resource projects, the September solution shows a lower average growth rate, although growth is more evenly distributed across Canada. Even the September solution is now somewhat dated in its projections for interest rates and inflation for the short term. Interest rates and inflation will clearly be lower than those projected, but the researchers maintain (see Volume 2) that their results for real variables (growth, employment) will be much less affected by recent developments. The researchers have built into their projections an assumption that, in the absence of a change in the structure of the Canadian economy, a tradeoff between unemployment and resurgent inflation will continue to trouble the Canadian economy through the 1980s.

Clearly, the Canadian economy is susceptible to numerous outside forces such as the world oil price, foreign interest rates, and the general level of economic activity in other nations. Domestic projections must predict changes in these outside forces as well. Both domestic and foreign changes are often the result of modifications in government policies, and so researchers must also be able to anticipate such political modifications. One might wonder whether the importance of world forces and political decisions is expanding in a manner that will make domestic projection exercises increasingly difficult and prone to error. Perhaps researchers will simply have to become more expert in predicting changes in external forces and political decisions. In the interim, the users of this type of projection, who must still make tough decisions in an unstable world, will have to become more cautious in applying

such projections to their own problems and more careful in choosing among alternatives.

There is an interesting interaction between the policy assumptions used as input to an economic projection and the resulting projection itself - especially when the projection results indicate that the policy may have ill effects. This study presents two revealing examples of how projections depend on predictions of what policy-makers will do. Early analysis (see Chapter 5, Volume 1) indicated that the recent Alberta-Ottawa Energy Accord would leave very little in after-tax profits to the oil companies, and suggested that energy megaprojects were thus jeopardized. Despite this, the projection kept the projects in place and did not assume an alteration of policy. As events developed, the analysis was partly vindicated. More money has now been redirected to the oil companies, and the megaprojects were indeed cancelled - although the cancellation was clearly also due to changing perceptions of future world oil prices. Thus, this element of the February projection was in error because assumptions were not changed when the model signalled problems. In the second example, the February projection was far too optimistic for 1982 because the authors assumed that policy (especially American monetary policy) would relax in order to avoid recession. Here the authors heeded the model's warnings and changed assumptions, but policy-makers kept to their course and the recession occurred - although there do seem to be signs of relaxation at the time this is being written (January 1983).

In endeavouring to cope with the many assumptions which must be made in order to develop economic projections, researchers have usually adopted a conservative stance and have assumed that the status quo will continue unless they possess some particular knowledge to warrant rejection of the status quo assumption. Consequently, a mere speeding-up of the process of change can make the projection exercise more difficult. In fact, the authors of the present study would not be surprised if many of their model's assumptions and relationships were to be upset by 1995. Their view, developed in Chapter 1, Volume 1 is that even a projection largely founded on past trends and current knowledge is a useful benchmark. They would also claim that the use of a macroeconomic computer simulation model makes possible the rapid and consistent comparison of the effects of alternative assumptions. In fact, the variety of projections and experiments included in this book provide just such a set of 'sensitivity tests', helping to distinguish results that are sensi-

tive to different assumptions from those that are relatively robust.

In spite of the difficulties, the following study presents a thorough and consistent analysis of the long-run trends implied by the policies and relationships that seem most likely to prevail.

Most of the important long-term lessons of the study are supported by both projections. Moreover, they have survived, or indeed been strengthened, by the events of 1982. These lessons are that Canada has the potential to achieve a reasonable rate of growth once the present recession ends, one that will permit a gradual reduction in unemployment; that inflationary pressures will continue to restrain growth unless there are more fundamental changes in the economy; and that Ontario will share in the national growth, growing somewhat more slowly than the national average but maintaining its position as 'centre of gravity' in the Canadian economy.

The researchers have provided a tremendous amount of information that will be helpful, if used carefully, to anyone interested in our economic future. For those concerned with public policy, the following material can be important in such tasks as projecting government revenues. For those concerned with the prospects of particular economic sectors, the information presented can assist in evaluating business opportunities. The model itself can be used to project the effects of various changes in the underlying assumptions, relationships, and policies - as illustrated in Chapter 4, Volume 1 and in the contrast between the projections presented. From these points of view, the following material is important and useful, regardless of the difficulties created by a rapidly changing environment influenced by alterations in foreign circumstances and by shifts in government policy. This book presents a stimulating view of the projection process based on economic models as well as a substantial amount of interesting and useful information about the Canadian and the Ontario economies.

David W. Conklin
Research Director
Ontario Economic Council

Acknowledgements

This is an update of two earlier studies undertaken by the Ontario Economic Council. Although the models have changed since those studies, our present work is built inseparably upon the research efforts of their authors. As such, we would like to thank Professors D. Foot, J. Pesando, J. Sawyer, J. Winder, and P. Dungan. In addition, we would like to thank all other contributors to the FOCUS and PRISM models, especially Professors G. Jump and B. Milne. The Ontario Economic Council and its staff, particularly N. Cole and N. Savoie, who typed and retyped, and B. Huff, who assisted with the editing and publishing processes, deserve special thanks. L. d'Anjou edited the manuscript, and the authors gratefully acknowledge her assistance. Perhaps our greatest debt is owed to Doug Hartle, who in his capacity as Research Director of the Ontario Economic Council often provided the criticism and encouragement necessary to complete the study.

Previous segments of the study were discussed in public at different times during the research period. An earlier version of Chapters 1 through 5 was presented at the Ontario Economic Council's Outlook and Issues conference in October 1981. The general comments of the conference participants and those of the discussant, P. Gusen, are acknowledged. The appendix to this study benefited substantially from the remarks of T. Maxwell.

Despite the great deal of competent assistance the authors received, we wish to exonerate all the above-mentioned persons and claim full responsibility for any errors or omissions.



1

Introduction, objectives, and methods

What are the prospects for the Ontario economy during the rest of the 1980s? How sensitive is the Ontario economy to alternative government policies, to foreseeable changes at home and abroad, to various more problematic developments? In 1977 and 1978, these and related questions were addressed in special studies prepared for the Ontario Economic Council by the Institute for Policy Analysis, University of Toronto (Foot et al. 1977; Sawyer, Dungan, and Winder 1978). This book is an update and extension of these earlier works; the computer-modelled projections at its heart were run in February 1982, and most of the text was written by April 1982.

Although this study is based on new tools developed and lessons learned in the years since the appearance of its predecessors,¹ it must be considered no more than a single and imperfect contribution to the wide-ranging debate on the prospects and problems of Ontario's economic future, and to the very young art of regional economic analysis in Canada. One of the most important lessons of the last few years is that studies such as this one, while helpful, must be used carefully.

The remainder of Chapter 1 discusses the study's objectives and methods. The authors advise reading the whole chapter so that basic objectives, methods, and limitations are understood. Skipping the detailed section on the computer models used will not result in any loss of continuity, but we suggest an attempt at reading it.

Since the economy of Ontario cannot be examined in isolation from that of

1 Note that certain features of the earlier studies - most notably, the analysis of capital markets and of Ontario government revenue and expenditure - have not been included in this update.

Canada as a whole, Chapter 2 presents our key assumptions for the Canadian economy and discusses the base-case national projection from which we derived the Ontario outlook. Then Chapter 3 examines the Ontario base-case projection, the assumptions underlying it, and some of its implications.

Of course, no one set of assumptions for Canada or Ontario will be thought likely by all analysts. Ongoing policy debate requires estimates of the impact of alternative assumptions. Chapter 4, therefore, presents a number of sensitivity tests in which key assumptions are altered and the resultant effects examined. Chapter 5 takes a retrospective view and attempts to gauge the impact on Ontario of the September 1981 Energy Accord.²

OBJECTIVES OF THE STUDY

Clearly, the challenges of an ever-more-complex economy require ever-more-careful economic planning.³ Now, effective planning requires knowledge of the future. Certainty, of course, is impossible, but the planner must have at least some conceptions of what the future holds in store. These conceptions are of two basic types: those specific to the particular firm, institution, or government, and those concerning the wider economic environment in which the specific unit operates. To obtain the former, firms, governments, and institutions may be able to deploy considerable in-house resources or gain access to the research of sector-specific analysts, perhaps through trade associations. Somewhat more difficult to obtain is a picture of the wider economic future, especially a picture composed of numbers, not simply adjectives such as 'gloomy' or 'bright'. Large firms and governments may be able to develop their own analyses or commission such research privately, but this option can be expensive. The first objective of this study,

2 An appendix attempts to gauge the impact of the cancellation of the Alsands megaproject.

3 Of course, in Canada 'economic planning' does not mean the rigid 'command' planning of Soviet-bloc nations nor even the indicative planning that has played a major role in the French economy. Rather, 'economic planning' means individual, decentralized planning for the future by firms, government, and institutions, a practice recognized almost universally as sound, even essential. Calls for an industrial strategy in Ontario or Canada essentially urge more indicative planning at a high state level, which would require even more careful enquiries into the future.

Introduction, Objectives, and Methods

therefore, is to make at least one view of the future of the Ontario economy publicly available as an aid to planning by all firms, local governments, and institutions and as a contribution to the in-house and private analyses conducted by larger units.⁴

One caution seems necessary. Virtually any economic unit has relatively good knowledge of its own sector; a very general study such as this cannot embody such insiders' knowledge. Thus, for example, while Chapter 3 details Ontario's future output and employment by industrial sector, almost any firm can probably better those projections for its own sector. Where the present study may prove useful is in providing projections for the whole economy and for client and supplier sectors - projections perhaps superior to those obtained by back-of-the-envelope or 'guesstimation'.

Also important to realize is the time frame of this study. Many analyses look to the short run - the next one to two years. Yet economic planners must often look well beyond that time. Even a decade may span only a fraction of the life of a new plant, public building, development strategy, or long-range government program. Indeed, as the economy has become more complex, as the lead times of major projects have grown longer and longer, and as the short term has become more volatile, planning for the longer term has been thrown into greater prominence. Thus, this study concentrates on the medium term, which we here define as the years through 1990.

Given this focus, the study does not attempt to capture the short-term ups and downs that will almost surely occur. (Indeed, such predictions would be impossible beyond the next two years.) Instead, it projects an average or 'trended' picture of the economy through the end of the decade. For medium-term planning, the average or trend should suffice - provided planners build in plenty of safety devices to cope with the unpredictable short-term ups and downs.

Planning for the future also requires some notion of how sensitive the economy is to shocks from abroad, to alternative policies, and to variations from certain key assumptions underlying the picture projected. This study addresses sensitivity analysis in Chapter 4 by examining the probable effects of change in each of seven variables.

4 Responses to the two predecessors of this study (Foot et al. 1977; Sawyer, Dungan, and Winder 1978) suggest that they have often played this role.

To sum up, the objective of this study is to make publicly available a general picture of the medium-term future of the Ontario economy and of its sensitivity to possible alternatives, all as a contribution to the planning that every sector of the economy must do.

THE NATURE OF THE PROJECTIONS

The Chinese curse 'May you live in interesting times' has clearly beset those who look into the economic future, for these are indeed interesting - and cursed - times to be a 'forecaster'. During recent years, the economy has been more volatile and surprising than during the two previous decades. For example, this study's two predecessors, while primarily concerned with the longer run, clearly missed the turmoil of the late 1970s and early 1980s, although they were not off the mark in suggesting that the high growth rates of the 1960s and early 1970s would not be returning. If this cloud has a silver lining, it is the fact that both economic predictors and the consumers of their analyses have been forced to take a closer look at what is being done and what can be done.

First, it must be emphasized that the numbers presented here, as in the earlier studies, are conditional projections, not forecasts. The distinction is important for appreciating what the study says and does not say. To make a long-term forecast for Ontario would require, among other things, a careful study of Middle Eastern politics to determine if a revolution in Saudi Arabia might occur during the designated period, causing a serious oil shortage. It would also demand an analysis of Canadian and world politics fine enough to determine if (or when) governments will make those errors of policy that often cause or exacerbate the ups and downs of the business cycle. Such precision is conceivable for perhaps as long as two years into the future, but it may well be impossible for the longer run. And certainly, the analysis required for an unconditional forecast of, say, the Ontario gross domestic product in 1989 would require a research team and resources well beyond those available for the present study.

Our ambition - to provide a conditional projection - is accordingly more modest. The study began with the economy's present state, with its more solid, underlying trends, with current policy stances, and with policy agreements for the future (for example, the Alberta-Ottawa Energy Accord of September 1981). These trends and policies were then projected forward, but

not always by simple extrapolation. Rather, we used considerable judgement about probabilities. For example, while we assumed westward migration will continue, we recognized that there are limits to its growth and scale, so we levelled it off for the last few years of the decade. Again, while Ontario's labour productivity has declined over the 1970s, falling back towards the national average, it can be argued that this drop has largely been the result of the economy's natural equilibrating mechanisms, working through labour and capital mobility. Hence, it would have been foolish to extrapolate the downward movement so that the province fell much below the national average. What seemed much more reasonable was a settling of productivity around the national average.

Such judgements are scarcely an exact science, so their results can make no claim to seeing the future with any great clarity. At best, they may suggest the direction in which the economy is moving and yield a blurred picture of the destination. They can say almost nothing about the meanderings the road may take along the way.⁵

The use of computer models

Given a goal of conditional prediction, analysts can proceed in several ways. Perhaps the most important point to note here is the extensive use we made of macroeconomic models, manipulated by computer. (The computer modelling systems we used are described in the following section.)

Computer models of the economy have an important role to play in developing conditional projections. First, they embody in their equations much of our knowledge of past trends and policies, as collected and refined over a span of years. Second, they keep various projections of key trends and policies consistent with each other. For example, a model may show that certain policies, if simply continued, would lead to politically unacceptable results; this is a clear signal that the policy is likely to be altered. Third, from the basic trend and policy projections, the models develop important and specific details on which judgement might otherwise be silent. The industrial

5 It must be noted that some people claim it is impossible to know anything meaningful about the economy more than one or two years in advance. If this is true, then, of course, longer-term planning is also impossible. No matter what the merits of the argument, the extent of resources that both governments and private business devote to planning suggests that it is not a majority opinion.

detail presented in this study is an example.

The fact that the numbers reported here were generated by computer should give the reader no false sense of precision - it gives the authors none. Economic modelling, especially the modelling of provincial economies, is still in its infancy. The computer did not produce the projections of this study in any mechanical fashion; rather, the trends and policies fed into the models were often obtained and adjusted judgements. Indeed, judgement and the models often worked in co-operation, as when the models showed that our initial judgements were inconsistent and caused us to make new ones. At other times, the mechanical operations of the models had to be partly overridden by judgement - for example, in developing the difficult area of the exchange rate and foreign capital flows. In the discussion of the projections, the study attempts to be as candid as possible about these occasions.

Alternative methods

Is it possible to use different means to make conditional predictions about the medium-term economy? Is it possible to look ahead more clearly and accurately?

It is certainly possible to look ahead by different means. The two principal alternatives to model-based projection are pure judgement and what might be called 'special knowledge'. Many individuals have been quite successful in looking into the future of the economy using judgement, often judgement based on long years of careful observation and reflection. In effect, these people have constructed models of the economy in their own minds, instead of in a computer, and some of them perform very well. 'Mental models' do have two major drawbacks. First, they cannot be communicated precisely to other researchers, and only with difficulty can they be passed down to others or improved by others' work. Second, it is often difficult for their operators to separate input from output - to separate their judgement-based assumptions from their results. Nonetheless, judgement by specific knowledgeable and experienced individuals remains a major source of information about the future, one that cannot be ignored by the serious planner. The Ontario Economic Council and the authors invite such individuals to respond to this analysis so that later studies can try to incorporate their insights.

Views of the future based on special knowledge could offset one of model-

based projections' major drawbacks: their failure to incorporate 'surprises'. The outstanding example of this in the past decade was most studies' failure to predict the major petroleum-price increases of 1973 and 1979. Individuals with special knowledge may have a better idea of the surprises in store for their own areas than do general researchers; today, they may point to futures with, for example, generally used and effective energy conservation and no nuclear power (or vice versa) or with massive unemployment resulting from the widespread use of microelectronic devices. Since the consequences of some such surprises would be serious and the experience of some of those who can predict them is great, the planner cannot ignore special knowledge as an alternative to the method of this study. However, surprises, by definition, are not expected by the majority, so to include them in a basic projection would leave the majority dissatisfied. Moreover, a specialist, again by definition, has difficulty integrating a surprise seen in his or her own area into a picture of the economy as a whole. Many tend to overlook or underestimate the natural equilibrating tendencies that can dampen the effects of a surprise. Economic models may offer a useful tool for estimating the impact of the unexpected on the entire economy, and we hope that future research on economic projections can include more sensitivity tests incorporating possible surprises.

THE MODELS: FOCUS AND PRISM

This section describes, with as little technical language as possible, the computer simulation models used for this study. It is designed to help readers to understand how we made our projections and hence to judge their validity.

What is a macroeconometric model?

First, what is a macroeconometric computer model, and why can it be useful?⁶ The initial step is to recognize that successive sets of numbers can represent most critical aspects of the economy over periods of time. For example, statistics are available each year and quarter for the Canadian gross national

6 This section is based in part on Dungan (1981a).

product (GNP), and they are available every month for the unemployment rate and consumer price index (CPI). Macroeconometric models use these numbers to represent or simulate the economy mathematically, usually not just at one point of time but at successive intervals.

Thus, a macroeconometric model is composed of numerical variables, such as GNP or the exchange rate, and their changes over time. The basic division is into exogenous variables (those determined outside the model and taken as given) and endogenous variables (those determined inside the model on the basis of our understanding of the economy). Naturally, the division between the two is rarely clear cut; much depends on the orientation of the model. The model of the Canadian national economy used in this study has about two hundred exogenous variables, including population size, the level of GNP in the United States, and dummy variables representing strikes; its more than three hundred endogenous variables include Canadian GNP, the exchange rate, and exports of automobiles to the United States. Another, related model was used to break out the national results into industrial and provincial detail; although its structure is much simpler than the national model's, because of its detail, it has more than two thousand variables, of which about seven hundred are exogenous and the rest endogenous.

Endogenous variables, in turn, are of two major types: identities and behavioural variables. Identities are simply definitions or representations of accounting practices. Thus, in the models we used, GNP, as in the National Accounts, is the sum of consumption plus investment plus government plus exports minus imports - each item being the sum of more detailed components. Similarly, consumption of durable goods in current dollars is, by definition, simply consumption in 1971 dollars (real consumption) times the price of consumer durables (defined as an index with 1971 = 1.0). At the heart of the model are the behavioural endogenous variables; the equations for them, as the name implies, attempt to embody current understanding of how particular aspects of (or actors in) the economy behave over time. The behavioural equations are obtained from economic theory and applied to the data through statistical fitting techniques. Economists share some of these techniques with other natural or social sciences, but many have been developed or refined by the special branch of economics called econometrics (the science of economic measurement).

When all the variables, identities, and behavioural equations are loaded

into the computer,⁷ the model can be solved simultaneously (all the equations and identities interact) and dynamically (the model solves for successive time periods) to obtain numbers that represent (or simulate) the Canadian economy over time.

The model and its solutions provide much valuable information in themselves since they reflect the complex interactions of the economy. They also provide a much-needed base for investigating the effects of possible changes. Economists, like other social scientists, often envy the way in which their colleagues in the natural sciences can conduct carefully controlled experiments to test and probe reality. By contrast, economies are rarely placed at the disposal of would-be experimenters (a fact in which even economists perhaps take comfort). In the words of Alan Powell, 'Typically nature presents to the applied economist an indifferently designed experiment which she doesn't even have the courtesy to replicate.' (1980, 2). A simulation model of the economy can, however, be subjected to controlled, replicable experiments. (In fact, the physical sciences also often use this strategy - for example, simulating the effects of wind flow around a proposed building design.) It is also possible to project the values of the exogenous variables into the future and then solve the model to produce a conditional projection of the entire economy. The latter exercise, because of the complexity of reality, still requires healthy doses of external judgement, but macroeconomic models have proved themselves important tools - although by no means the only ones - for those whose task is investigating the future.

Moreover, with a reality as complex as an entire economy, empirical simulation models provide an ongoing tool for organizing, embodying, and remembering individual advances in theory and application. Of course, computers, in which the models reside, never learn anything by themselves, but they have the great virtue that (barring accidents) they never forget anything either. It is difficult for the human brain to keep an economy's many indirect interrelationships in mind. But with a simulation model a researcher can, as in Chapter 4 of this study, pursue experiments on taxation strategy confident that the model will show their long-run implications for, say, the balance of trade - implications perhaps stemming

7 The many variables, identities, and behavioural equations present a large mathematical problem; thus, researchers find computers essential to managing and solving models of any larger than perhaps a half-dozen equations.

from elements of the model developed several years previously by a different researcher for a different purpose. Also, for a projection into the future, the model is vital in checking the consistency of judgement-based projections of exogenous variables. For example, when we were working on the projections presented in Chapters 2 and 3, the model's first results clearly pointed out inconsistencies between our initial projections of the westward shift of economic activity in diverse sectors and our assumptions about the westward migration of population.⁸

The 'top-down' approach

Theoretically, one could model the Ontario economy using a 'top-down' or a 'bottom-up' approach.⁹ A 'top-down' system first makes a projection of the national macroeconomy in the aggregate; then details for industries and for each of the provinces are broken out and constrained to sum to the national totals.¹⁰

The alternative approach would construct a picture of the Ontario economy by adding up details by particular sectors or even subregions. Each system has its problems: the 'top-down' approach may miss the influences of special factors relating to particular industries or areas, while the 'bottom-up' approach cannot take proper account of the fact that much of what affects Ontario is national, even international, in scope (for example, the relationships between exchange rates, interest rates, and federal monetary and fiscal policy). We selected the 'top-down' approach for two reasons. First, in our view, the impact of national and international trends and events cannot be omitted from a study of Ontario. Second, although the art of regional modelling is in its infancy, for a variety of reasons more work has been done using the 'top-down' approach. To our knowledge, no carefully constructed 'bottom-up' model of the Ontario and national economies has yet been constructed (or, at least, been made publicly available). Thus, the 'top-down' approach offered the best combination of utility and feasibility.

8 Most startlingly, these inconsistencies showed up as impossibly low unemployment rates for Alberta.

9 The ideal approach - a combination of 'bottom up' and 'top down', which would necessarily cover all provinces - may not be realized for many years.

10 For a relatively nontechnical description of the 'top-down' and alternative approaches, see Milne (1981).

The models package at the University of Toronto: FOCUS AND PRISM

For our study we used two models, FOCUS and PRISM, available at the University of Toronto. Although the two are carefully related to each other so as to form a single package, they are quite different in content, orientation, and operation (See Table 1.1).

The FOCUS national model

FOCUS (Forecasting and User Simulation Model) is a second-generation, quarterly model of the aggregate Canadian national economy, developed and maintained at the Institute for Policy Analysis, University of Toronto.¹¹ By current standards, it is of medium size, comprising more than five hundred variables, about three hundred of them endogenous. Included are all the major macroeconomic variables of general interest, including GNP, national income, and their components; wages and prices; employment and unemployment; interest rates; international trade and capital flows; and the exchange rate.

FOCUS has been especially designed for longer-term and policy analysis rather than short-run forecasting. To this end, it has been made congruent with current economic theory (for example, it pays careful attention to aggregate supply and to supply-side constraints), and many policy levers and options have been built into its structure (for example, a user can specify one of a number of targets for monetary policy, including the interest rate, the money supply, and the exchange rate).

Operating simultaneously with FOCUS is a small energy-accounting module that makes it easier to deal with the many details of oil and gas pricing, trade, production, demand, and revenue allocation.¹²

11 FOCUS was first introduced in 1977 but has undergone numerous changes since then. The versions used for the present study were 81D and 81E. FOCUS has its roots in the earlier TRACE and QFM models; in fact, the Institute's work on macro models goes back to the late 1960s. Major contributors were Gregory Jump (designer of FOCUS and QFM), John Sawyer (designer of TRACE), Peter Dungan, David Foot and Thomas Wilson. Complete documentation for the model is contained in the Institute for Policy Analysis (1982).

12 The energy module is based upon a similar tool developed by Percy Thadaneay and James Osten, Data Resources of Canada, Inc.

TABLE 1.1

Models package at the University of Toronto

FOCUS

- National
- Quarterly
- Complex and simultaneous
- Single sector
- Both demand and supply elements integrated
- 500+ variables

↓

Expenditure detail
Aggregate output, prices, employment, etc.

↓

PRISM

- Annual
 - 23 industrial sectors
 - All provinces, plus the combined territories
 - Simple structure; slight simultaneity
 - Supply orientation; economies built from sectoral detail
 - 2000+ variables
-

The PRISM model

PRISM (the Provincial-Industrial Satellite Model) is a large but relatively simple annual model that expands FOCUS's national simulations into their provincial and industrial details. At present, it breaks out twenty-three industrial sectors and all ten provinces plus the combined territories. It is a direct but much expanded descendent of the models used to examine the Ontario economy in this study's predecessors (Foot et al. 1977; Sawyer, Dungan, and Winder 1978).¹³

PRISM operates in two major stages. In the first, the pattern of final

13 For a description of the earlier model, see Sawyer, Dungan, and Winder (1978, appendix to chapter 3). Model was designed by John A. Sawyer and developed with the assistance of Chukwuma Obidegwu and Peter Dungan. PRISM was introduced in 1981; the version used for the present study was 81B. Full documentation for PRISM is available from the Institute for

demand derived from FOCUS is expanded into national industrial output, price, and employment detail, depending in part on an input-output framework. (The version of PRISM that we worked with used a 1977 input-output table.) The use of input-output relationships also allows for all required intermediate production.

The second stage of PRISM is the estimation of provincial detail. Here PRISM depends first and foremost on provincial shares of the outputs of the different industrial sectors. Many of these shares are exogenous to the model, but those for most tertiary sectors (such as services and finance) are produced endogenously in a very simple fashion. Applying the shares to national industrial outputs (real and nominal) and summing across sectors yields provincial real and nominal GDPs. Additional simple relationships break down the nominal provincial GDPs into income components. Employment by province also depends on sectoral shares, adjusted for provincial differences in labour productivity. Provincial labour-source populations are exogenous,¹⁴ and participation rates are determined by simple relationships.

For both the industrial and the provincial detail, PRISM users always enforce strict consistency with the FOCUS national totals, providing an important check on the provincial projections. For example, as we have already mentioned and will discuss in greater detail in Chapter 2, it was unreasonable results for the western provinces, not for Ontario per se, that caused us to revise downwards our early projections of shifts in economic activity to the West.

THE NATURE OF THIS STUDY

Recall the distinction we drew between a forecast and a conditional projection. This study can only be described as an example of the latter - it assumes that present-day trends continue and that the rest of the decade has no major surprises in store for the economy. For it, we used large-scale econometric computer models designed to represent the Canadian and Ontario economies. Their structure uses a top-down approach: first, the researcher completes the national projection, and from this come the provincial

Policy Analysis, University of Toronto. For an introductory description, see *Economic Policy Review* 3, no. 2 (Policy and Economic Analysis Program, Institute for Policy Analysis, 1981).

14 For our study, these estimates were supplied by Foot (1982).

projections. In examining them, the reader should remember that the computer was used as an aid in computation and a check on consistency. Moreover, the projections incorporate both the views of the authors and, indirectly, those of numerous other individuals. The results of this mix are discussed in the following chapters.

2

The national projection

Since Ontario's economy cannot be studied in isolation from that of Canada and of the world, the reader must know the national projections on which we base our picture of the province's future. This chapter has three major sections. The first examines our key assumptions about the world economy, energy, major national trends, and policy stances across the country. The second section presents an overview and discussion of the results; it describes some of the ways in which we check for consistency, relates the results to the assumptions, points out possible weak spots, and suggests areas that might be especially susceptible to alternative outcomes. The last section examines the national industrial detail developed with the PRISM model.

MAJOR ASSUMPTIONS

The Ontario projection depends in good part on the national projection, and both depend on key assumptions about the future. In many cases, these are expressed as the values assigned to the exogenous variables of the FOCUS and PRISM models. Sometimes, however, we override the models' behavioural equations because we believe that behaviour in the future will differ in certain respects from that of the past.

This section examines our key assumptions in four major areas: (1) the international economy, principally that of the United States; (2) the energy sector; (3) trends underlying the rest of the national economy; and (4) government policy across the country.

Assumptions about the international economy

For Canada, the primary focus of any consideration of the international economy must be on the United States. Table 2.1 presents a brief summary of the U.S. projection that lies behind the projection for Canada.¹ For historical comparison, it and subsequent tables also show averages of the relevant statistics for 1962-73 and 1974-80. (The dividing point was set at 1973-4 to differentiate the more 'normal' - or perhaps abnormally good - period of the 1960s and early 1970s from the more troubled and, one hopes atypical period of the middle and late 1970s.)

As Table 2.1 shows, the projection for the United States assumes the current experiment of 'Reaganomics' is not nearly so spectacular a success as the Reagan administration predicted in 1981. One can hope that the experiment may yet work, but evidence at the time of writing (April 1982) suggests its results are, at best, mixed.² In fact, current and projected U.S. policy stances are themselves mixed, combining severe monetary restraint with fiscal policy that is at best neutral and may be quite expansionary once the additional scheduled tax cuts and defence spending are effected.³

Such a policy mix might have a negative effect on longer-run capital

1 The U.S. assumptions are taken, with slight modifications, from a projection for the U.S. economy developed in 1981 by Data Resources Inc., Lexington, Mass. and made available through DRI Canada.

2 U.S. evidence from the first quarter of 1982 indicates a considerable slowdown of inflation in both wages and prices. Yet these results may come in part from three factors: (1) the considerable attention paid to foreign competition in the auto industry, leading to the realization that the U.S. industry requires a 'one-time' adjustment in costs to stay alive; (2) deregulation in trucking and other industries (ironically, done under President Carter), which has led to highly visible wage roll-backs; (3) falling real - even nominal - oil prices, which, with the U.S. now at world prices, are translated into domestic prices, unlike the case in Canada. All of these are special factors - perhaps even lucky breaks - whose effects have been amplified by the recession induced by monetary restriction. It is difficult to separate the contributions of these special factors from those of the now relatively severe recession. It is also difficult to determine how much of the United States' relatively low inflation of later 1981 and early 1982 will be translated into generally lower inflation expectations, and whether inflation will be boosted substantially upwards again when the U.S. economy begins to recover.

3 It seems unlikely that further cuts in nondefence spending and social programs could be large enough to offset the net effect of fiscal expansion.

TABLE 2.1
The U.S. economy

	Annual Averages			
	1962-73	1974-80	1981-5	1986-90
Real GNP growth	4.2	2.5	2.8	2.9
Inflation rate (GNP deflator)	3.6	7.7	8.6	7.0
Treasury bill rate	4.7	7.5	13.1	9.9
Industrial bond rate	6.0	9.2	12.8	11.3

formation. It is, of course, partly offset by tax-law changes to treat depreciation more favourably, but the extent of the offset is difficult to determine.

Our conservative estimates of the results of U.S. policy can be seen in Table 2.1. Net moderate restraint keeps the average real growth rate well below that of the 1960s and early 1970s; in the later 1980s, reduced population growth also reduces potential growth. (Even so, the projection is optimistic in showing growth rates above those of the troubled 1974-80 period.) Inflation is gradually reduced; from 1982 onwards, it is not projected to return to double digits. The impact of continued monetary restraint can be seen in the high interest rates, although these, too, fall with inflation. Real interest rates are higher in the 1980s than in the earlier periods (if actual inflation can be taken as expected future inflation).

Greater success in the U.S. would, of course, considerably alter the outlook for Canada and Ontario, primarily for the better in that extra growth and reduced inflation in the States would almost inevitably spill over the border.

The rest of the world

Of course, the world beyond the United States is also important for the Canadian economy.⁴ We assume that the rest of the world will proceed, in

4 Sometimes the point is not as obvious as it seems. For example, popular attention in 1981 and early 1982 has concentrated on the relatively slight depreciation of the Canadian dollar *vis-à-vis* the U.S. dollar, ignoring the considerable appreciation of both currencies against most other countries' - an appreciation with important implications for Canadian trade.

relation to the United States, much as it has in the past - that is, with a somewhat greater rate of growth and with mixed inflation performance. The projection includes no major shifts in the balance of economic power, no major changes in the 'rules' of international trade and financial relations, and no major trade disruptions, such as the drastic oil price rises of the 1970s and the shifts in commodities of the early 1970. It does, however, assume some real increase in petroleum prices, a subject discussed in more detail in the next subsection.

Naturally, it is unlikely that the coming years will really be so smooth. We will undoubtedly have surprises, both up and down. The best the researcher can hope is that the present projections give a fairly accurate picture of average performance.

Assumptions about energy

The effects of energy-sector variables are pervasive, and we have had to make a number of problematic assumptions on the subject. Before discussing them, we must stress that the focus of this study is the macroeconomy, not the energy sector, a fact that necessitates the use of a certain degree of approximation in the assumptions. Moreover, even if an assumption appears unreasonable to some people, the alternative's direct effects on the macroeconomy may be mitigated by other indirect changes. For example, if oil production is lower than assumed here, the exchange rate would have less tendency to appreciate, encouraging real output in other sectors. (Of course, even such intersectoral shifts can have important effects on the Ontario economy.)

The assumptions about energy are summarized in Table 2.2. (Details are at the end of the chapter: on production, demand, and prices in Table 2.19, on trade, revenues, and subsidies in Table 2.20 and on balance of payments and refiners' acquisition prices in Table 2.21.) Several points about world price and supply, domestic price and production, domestic demand, and external trade merit some discussion.

World price and supply

We assume that, the world price of petroleum remains more or less stable (vis-à-vis the U.S. GNP deflator) through 1984 and then grows at 5 per cent

TABLE 2.2
Assumptions about energy: summary

	Annual Average		
	1981-3	1984-6	1987-90
Petroleum import price (US\$/bbl.)	37.30	49.42	74.60
Growth rate	9.7%	11.4%	12.3%
Refiners' acquisition price (\$/bbl.)	32.00	50.27	77.67
Growth rate	33.0%	14.2%	12.9%
Petroleum production (mill. bbl.)	537	487	558
Petroleum imports (mill. bbl.)	153	174	98
Balance on trade in petroleum and natural gas (\$ bill.)	0.37	0.24	9.26

per year in real terms. This projection implies that the Organization of Petroleum Exporting Countries does not break up, and that the oil glut of early 1982 is relatively transitory, disappearing as the world economy begins to pull out of recession.⁵

The projection is pessimistic in that it sees real world oil prices continuing to rise after a brief hiatus. Yet it is optimistic in that it sees neither a repetition of the huge increase of the 1970s nor a major shortage or embargo. Moreover, it seems wise to be conservative with respect to so important a commodity as petroleum. Indeed, even if OPEC collapses, it seems unlikely that most western nations would permit the real price of petroleum to fall sharply; rather, they would use taxes and tariffs to keep domestic prices up, to preserve energy security, and to protect major investments in energy conservation and the development of alternative energy sources.

Domestic prices and production

The basis of our projections for domestic energy is the Energy Accord between the federal and Alberta governments, signed on 1 September 1981 (Canada 1981). All its major provisions are assumed to remain in place

⁵ For the real price to rise after 1985 requires some degree of market power to return to OPEC; more than likely, this will not occur gradually, as assumed, but suddenly as a disturbance upsets one or more of the major producers. This possibility is included in the projections, but it is averaged out, rather than placed at a specific point of time.

through 1986, as scheduled, and to be extended through 1990; the sole exception is that federal revenues are somewhat reduced in the latter period and revenues of the energy corporations correspondingly increased. This assumption follows from our analysis of the Accord, which finds that the agreement gives the corporations a relatively small share of revenue (see Chapter 5 of this book, and Scarfe and Wilkinson 1981). Since we also project the federal deficit to be much reduced by 1986, we feel that any re-negotiation of the Accord is likely to result in a greater corporate share, especially if such an increase is felt necessary to stimulate further exploration and development.

The Accord specifies a schedule of prices for 'new' oil (the New Oil Reference Price) with a maximum equal to the world price. Under the assumptions made for world prices, this upper ceiling becomes effective in 1982 (see Table 2.19). A second schedule sets the price of 'old' conventional crude oil at a maximum of 75 per cent of the import price, effective in 1984. For Canadian consumers, the key price of oil is the Refiners' Acquisition Price (the blended price), which is the sum of the price of 'old' conventional crude oil and the Petroleum Compensation Charge (the charge the federal government levies to compensate for subsidies paid on imported oil and to producers of new oil of all kinds). Under the Accord, the federal government agreed to set the compensation charge so as to make collections approximately equal to subsidies. This agreement ties movements in the blended price to movements in the world price, and, once the Accord is fully in effect, the blended price approaches the world price as the proportion of 'old' crude in Canadian consumption diminishes. Thus, as shown in Table 2.2, the blended price is projected to rise 33 per cent in 1981-3 (mostly in the first two years of the period); thereafter it goes up only slightly faster than the import price. The 1987-90 average of \$77.67 per barrel in Canadian dollars equals approximately \$67 in U.S. dollars - still below the U.S. import price.

The price projections for natural gas also follow the Accord, which deliberately keeps gas prices low, relative to oil, to encourage conversion. To the extent that conversion does take place, domestic energy costs are further below world prices (at least, pre-tax prices) than the path of the blended price alone would suggest.

Projecting domestic production is more difficult than projecting prices

since production schedules cannot be laid out in signed accords.⁶ As shown in Tables 2.2 and 2.20, the assumption is that petroleum production falls in mid-decade, then rises again. A steady fall in production of 'old' conventional crude first dominates but is then overtaken by a rising output of 'new' conventional crude, of oil-sands (synthetic) production, and of petroleum from the offshore Hibernia fields.

The projections assume the eventual building of both major planned oil-sands plants (Alsands and Cold Lake). Between the time of writing this book and the time it entered production, the announced cancellation of the projects proved this assumption overly optimistic. To incorporate this development in this study, Professor Dungan analysed the cancellation effects separately; the results are presented in Appendix A. They show that, although the oil-sands plants were touted as being extremely important, their 'loss' has a surprisingly small impact on the national and provincial economies, particularly before 1988. Therefore, although the projections presented in Chapters 2 and 3 do not incorporate the cancellation, we feel they continue to be valid. In any event, political pressures may force completion of at least one of the plants, perhaps with near-total government ownership.

Our excessive optimism regarding the oil-sands may however, be offset by too-pessimistic assumptions for Hibernia production and the development of recent discoveries of natural gas on the east coast. (Indeed, all the assumptions for growth in natural-gas production are relatively modest.)

Dropping one oil-sands plant, with no corresponding increase in production elsewhere, would probably affect the projection at the margin in the following ways: the exchange rate would appreciate less in the late 1980s; inflation would thus be slightly higher, and real incomes would likely fall. The results for real output for Canada overall would be uncertain, depending a great deal on policy response. For Ontario, the results would likely be positive, since reduced appreciation would aid the province's exporting and import-competing industries.

6 The projections here are partly based on work done in 1981 by Data Resources Inc. and partly on projections done by Energy, Mines and Resources Canada as background to the Accord.

Domestic demand

The assumptions for demand are generally conservative. A rising relative price for oil induces some conservation (defined as a movement away from energy as an input) and some switching to alternative sources, leaving domestic demand virtually unchanged through the 1980s despite real growth in the economy. Therefore, rising production at the end of the decade results in a reduction in imports.

Domestic demand for natural gas, on the other hand, is projected to rise through the decade. The effect of overall conservation is more than offset by a movement towards gas as an alternative fuel, encouraged by its price being kept below that of oil.

The most likely alternative to these demand assumptions is, of course, more drastic conservation or a switch to alternative sources, induced by higher prices. In that case, real demand, especially for petroleum, would fall. However, such adjustments to prices are not - or not yet - visible, and the question of the long-run price elasticity of demand for petroleum is a clouded one. For recent years, it is very difficult to separate the effects of increasing oil prices from the effects of reduced GNP growth.

External trade

Canada both imports petroleum and exports petroleum and natural gas, although its petroleum exports are expected to fall close to zero by 1985 and remain there at least until the end of the decade. In dollar terms, the balance of oil and gas trade was in Canada's favour until 1980 and 1981 (see Table 2.21). It is projected to remain close to zero until near the end of the decade, then to turn sharply in Canada's favour again. Our reasoning is as follows. In the early and middle 1980s, real imports of petroleum increase, as demand holds steady and conventional domestic production is somewhat reduced. But any adverse effect on the balance of payments is offset by an increased value of gas exports, which are assumed to rise in both volume and relative price. (At the time of writing, one can question whether the U.S. market will require the projected volume of exported gas. The relative price assumption also looks increasingly questionable, but the same effect would be achieved if the National Energy Board permits an increased volume of exports - as it is under increasing pressure to do.) By the end of the de-

cade, the increasing flow of 'new' oil permits the assumption of a considerable reduction in imports. Although they are still sizeable (about half the present level), the reduction means that Canada nets more than \$10 billion in oil and gas trade in 1990.

We have already discussed the implications of the alternative assumption of a reduction in new production.

Assumptions about trends underlying the national economy

The model includes a host of implicit assumptions about the national economy, most of the negative sort - that is, that Canada will not break up politically, that there will not be any drastic change in the economic 'rules of the game'. Most of these assumptions are obvious and need not be listed. Some may not be so apparent; this subsection addresses several in the key areas of population, the 'full-employment' unemployment rate, and productivity. Others are most profitably discussed in the section on results near the end of the chapter.

Population, including labour-force source population

Clearly, any overall economic projection requires estimates of the total population and its demographic characteristics, including the size of the labour-force population (persons fifteen years of age and older who are not in institutions or serving in the military forces). Table 2.3 summarizes the projections.⁷ (For greater detail, see Table 2.25 at the end of the chapter.) The growth rate of the total population falls below 1 per cent a year. An important demographic characteristic of the early 1980s is the passage of the last of the baby-boom generation into adulthood. During the late 1960s and 1970s, the entry of this generation into the labour-force source population kept its rate of growth well above that of the total population's. In the

7 Medium-term projections can use independent projections of population growth since economic performance 'feeds back' into population growth only with a very long lag (a possible exception is net immigration). We used recent work by David Foot (1982) for projections of total population and of labour-force source population. However, the FOCUS model generates its own estimates of the source population's rate of participation in the labour force, so our estimates for these figures differ from those of Foot.

The Ontario Economy 1982 - 1995

TABLE 2.3

Assumptions about national demographics and productivity: summary

	Annual average				
	1962-73	1974-80	1981-3	1984-6	1987-90
Population growth	1.60	1.20	1.06	0.98	0.85
Growth of labour-force source population	2.48	2.14	1.39	1.24	1.00
Growth of labour force 'Full-employment'	2.98	3.15	2.50	2.01	2.17
unemployment rate	4.30	5.90	5.20	4.96	4.78
Labour productivity growth ^a	2.47	0.07	0.08	1.19	1.05

^a Defined as gross domestic product (GDP) at factor cost per employee.

1980s, the two growth rates approach each other much more closely.

During the mid-1970s, the growth rate of the labour force exceeded the growth rate of the source population by an average of 1 per cent per year, largely because of an increased participation rate for women, both 'young' (ages fifteen to twenty-four) and of 'prime age' (twenty-five to fifty-four). This upward trend is projected to continue through the 1980s. Additionally, the participation rate remains high because the younger members of the baby-boom generation, who entered the source population earlier, are moving into the age group of highest labour-force participation.

The 'full-employment' unemployment rate

Economists have recognized for some time that a zero unemployment rate is not an appropriate target for macroeconomic policy.⁸ Some - at times most - of the unemployment in an economy has frictional or structural causes: some labour-force participants deliberately spend time searching for employment (or better employment); the skills or locations of others are mismatched with available vacancies. Thus, macroeconomic policy must accept some rate of unemployment at which the economy can be said to be at 'full employment'.⁹

⁸ For discussion, see Dungan and Wilson (1982).

⁹ It is still possible to attack the remaining unemployment through microeconomic policies, such as worker retraining and programs to facilitate the movement of people or jobs.

That rate may, however, be difficult to define exactly; moreover, we now know that it is not constant but varies with demographic factors and institutional factors governing employment and unemployment.

Table 2.3 summarizes our values for past and future 'full-employment' rates.¹⁰ While the actual levels of the rate are open to question and could be as much as one percentage point above those shown in the table, its past and future movement are less debatable. During the 1970s, it rose as much as two percentage points above the rates of the 1960s for three reasons. First, in 1971, the federal government made unemployment insurance benefits significantly easier to receive, a policy change that allowed workers to spend longer searching for jobs and so increased frictional unemployment. Second, the 1970s saw a large portion of the baby-boom generation enter the labour force. The economy could absorb this increased number of new entrants only with a lag; moreover, young labour-force participants always have relatively high unemployment rates, partly for 'job-search' reasons (for the young, the costs of being unemployed are relatively low and the rewards of searching out the best available job can be relatively high). As the proportion of this 'unemployment-prone' group increased in the total labour force, so did the average unemployment rate and the estimated 'full-employment' rate. Third, the increased participation of women in the labour force caught unprepared the traditional structure of labour markets in the 1970s; it has taken time to change attitudes and job structures to accommodate the influx.

To some extent, all these factors are reversed in the 1980s, and the 'full-employment' unemployment rate is projected to fall. Various unemployment insurance provisions have already been tightened, undoing some of the effects of the 1971 reform. The heavy inflow of young workers abates with the passing of the baby-boom into the mature work force. Finally, the workplace is accommodating itself to the availability of more women workers.

This shift can have major implications for macroeconomic policy. During the 1970s the unemployment rate - a politically sensitive number - would have risen under any constant government policy; during the 1980s, its tendency should be downwards, all else equal, giving considerably wider latitude to policymakers.

10 These estimates are taken from work by Dungan and Wilson (1982).

Labour productivity

Since 1972, poor productivity growth has clearly been among the major problems of the economies of Canada and much of the rest of the world - or at least a major symptom of their problems.¹¹ Most notably, poor labour productivity growth leaves no source for real-wage growth save from the shares of the other factors of production - especially capital. The steady growth of the pie in the 1960s and early 1970s may have kept arguments over sharing it from touching off the wage and price inflation afflicting the later 1970s.

As shown in Table 2.3, labour-productivity growth all but disappeared in the 1974-80 period.¹² This study assumes continued zero or negative growth for 1981-2, with a cyclical recovery in 1983. Thereafter, the projection is for positive growth at rates above those of the later 1970s but well below the heights attained in the 1960s and early 1970s.¹³

The alternative assumption of a lower productivity growth could imply a corresponding reduction in the projected level of output - and also in real wages. Therefore, the result might be a combination of somewhat lower output and higher inflation.

Assumptions about national policy stances

In general, policy stances and tools are assumed to remain unchanged, unless stated otherwise. Thus, for example, we assume that the 1980s see no signi-

11 For a recent review of productivity and related issues in Canada, see Denny and Fuss (1983).

12 Note that the measure of productivity used is output per worker, not per hour. Thus, these rates of growth include a negative component for the secular trend downwards in hours worked per week per worker. Note, too, that reductions in labour productivity do not necessarily mean that workers are working less industriously than before. The causes of such drops can be many and varied, including the substitution of labour for capital to save on energy costs and a fall-off in technological innovation or in the rate at which it is embodied in new capital. See Denny and Fuss (1983) for further discussion.

13 The productivity projections are somewhat below those of the preliminary projections we presented to Outlook and Issues 1981, an Ontario Economic Council conference in October 1981. We are grateful to several conference participants, especially Dr. Dorothy Walters, for their comments on our initial productivity assumptions, although they would not necessarily agree with the revisions shown here.

ificant increases in barriers to interprovincial trade and movements of capital and labour. (If those barriers do increase, domestic productivity performance would be much reduced, and the outlook for Canada and Ontario significantly worsened.¹⁴)

We also assume that Canada's current restrictive policy mix, like the policy mix of the United States, has no spectacular success or failure. That is, it affects output and inflation much as similar restrictions in the past, even though the present policy mix is somewhat more severe and sustained.¹⁵ For both Canada and the U.S., we assume that the restrictions ease the rate of inflation, but at a cost of lost output, and that the degree of restraint is reduced once policymakers perceive some success.

Moreover, the Canadian future is characterized by somewhat less restriction than the American, giving the former's higher real growth but also its relatively greater inflation. In other words, we assume a continuation of the two countries' relative restrictive stances. We also allow for two sets of special factors. First, we assume that the Canadian economy possesses, as it has in the past, greater growth potential than the American; thus, it is easier for Canada to pursue policies leading to somewhat higher growth. Second, the higher inflation in Canada is seen as the result of three special factors: most importantly, that Canada is still moving up to world oil prices while the U.S. benefits from having already done so; that U.S. trucking and other industries were recently deregulated, leading to highly visible wage rollbacks; and that the U.S. had a greater political consensus in 1981-2, making labour there more willing to accept lower wage increases.

Sometime during the 1980s, Canada may undertake a renewed form of incomes policy, presumably one less crude than a simple wage and price freeze. If such a policy is only moderately binding and successful, it would simply constitute a continuation, by other means, of a policy of moderate restriction. However, an incomes policy that proved either disastrous or highly successful could greatly alter this study's projections.¹⁶

14 For a discussion of some issues in the area of interprovincial trade and trade barriers, see Institute for Policy Analysis (forthcoming).

15 It might be noted that, whether desirable or not, the current policy mix in Canada is more consistent than that in the U.S. Monetary policy is tight and is matched by a relatively tight net fiscal policy (of all levels of government combined), rather than by a policy of expansion, as in the U.S.

16 For an excellent discussion of past and future policy choices, in the

TABLE 2.4

Assumptions about government expenditures and transfers

	Annual average				
	1962-73	1974-80	1981-3	1984-6	1987-90
Real government expenditures on goods and services					
Growth rate	5.2	1.6	2.1	1.9	2.7
Growth rate less rate of growth of real GNP	-0.6	-1.1	-0.3	-1.5	-0.7
Nominal transfer payments to persons by governments and public pension plans					
Growth rate	12.7	15.4	18.3	12.5	11.8
Inflation (GNP deflator)	3.9	10.0	10.6	8.5	7.6
Real growth rate	8.8	5.4	7.7	4.0	4.2
Growth rate less rate of growth of nominal GNP	2.7	2.4	5.0	0.3	0.4
Federal net intergovernmental transfers (nominal)					
Growth rate	13.1	15.3	13.4	9.3	8.3
Real growth rate	9.2	5.3	2.8	0.8	0.7
Growth rate less rate of growth of nominal GNP	3.1	2.3	0.2	-3.0	-3.1

Table 2.4 summarizes our specific assumptions about policy. Growth in real government expenditure on goods and services is restrained (at all levels of government combined), continuing past policy. As can be seen in the table, the growth in real government expenditures was below GNP growth in both the 1962-73 and the 1974-80 period - as much as a full percentage in the latter.¹⁷

The growth rate of transfers to persons by all levels of government declined in real terms between the 1962-73 and the 1974-80 period, although the fall is less when measured against the lower GNP growth of the latter period. The projection is for a further decline, both in real terms and as a share of GNP, except during the 1981-3 period, when low growth and high unemployment boost automatic outpayments. The decline in the later 1980s reflects two assumptions: that no new transfer programs are undertaken,

context of the debate between neo-Keynesians and neoclassicists, see Lipsey (1981).

- 17 Note that the concept used is real expenditure on goods and services, which excludes transfer payments of all kinds. Since the latter shift income among persons, they do not represent a claim by government itself on goods and services.

and that a slow but steady improvement in the economy helps to reduce welfare and unemployment insurance payments relative to GNP growth.

Finally, we assume a reversal of the historically upward trend in net federal transfers to other levels of government. Thus, federal net transfers increase only slightly in real terms, and their growth rate is actually less than the growth rate of real GNP. This assumption may be too severe, although the direction of the trend is clear. (Note that the upward trend declined in the 1974-80 period relative to the 1962-73 period.)

Fortunately, the macroeconomic consequences of some alternative assumptions would not be great. So long as the position of all governments combined remains largely unchanged, it is simply a question of which level of government shows more of a deficit or surplus.¹⁸ Of course, if transfers were much larger or smaller, different macroeconomic results could be forthcoming, since one level of government might alter its taxes or expenditures, changing the aggregate.

THE NATIONAL PROJECTION: A DESCRIPTION

Combining and co-ordinating all the assumptions through the FOCUS macroeconomic model yields a detailed projection for the national economy.¹⁹ This section describes and analyses that projection and discusses its consistency and its possible weak spots. Summary tables accompany our commentary in the text. Many rather detailed tables appear at the end of the chapter. We urge readers to use them to draw their own conclusions, which may vary from our analysis.

Overview of the national projection

In general the projection shows the national economy gradually regaining its balance through the operation of its own equilibrating mechanisms - an un-

18 Of course, the question can still be very important to individual governments. Note that this study does not attempt to update the work on Ontario revenues and expenditures done in Sawyer, Dungan, and Winder (1978) and Foot et al. (1977).

19 Notice that the term 'national (or provincial) projection' is used interchangeably with 'base case'. The base case is the projection we present in Chapters 2 and 3. The concept is most useful when analyzing shocks to the economy, as in Chapter 4; the simulation of a shock and a response to it are compared to the base case.

The Ontario Economy 1982 - 1995

TABLE 2.5
The national economy: summary

	Annual average				
	1962-73	1974-80	1981-3	1984-6	1987-90
Real GNP growth rate	5.8	2.7	2.4	3.5	3.5
Inflation rate	3.9	10.0	10.6	8.5	7.6
Interest rate, industrial bonds	7.3	10.8	15.6	12.8	12.0
Unemployment rate	4.9	7.3	8.0	6.9	6.0
Exchange rate (US\$/C\$)	0.95	0.93	0.84	0.86	0.87

TABLE 2.6
National performance: Canada and the United States

	Annual average			
	1962-73	1974-80	1981-5	1986-90
Real GNP growth				
Canada	5.8	2.7	2.8	3.5
U.S.	4.2	2.5	2.8	2.9
Inflation rate (GNP deflator)				
Canada	3.9	10.0	9.8	7.8
U.S.	3.6	7.7	8.0	7.0

surprising conclusion since the assumptions include no major disturbances, favourable or unfavourable. A summary of the national projection is given in Table 2.5 (and in greater detail in Table 2.22 at the end of the chapter. Table 2.6 compares Canada and the U.S., while Figures 2.1 to 2.6 plot a selection of key variables against each other and their own past behaviour.

Real growth rises gradually from the low levels of the 1980-2 period and levels off later in the decade at about 3.5 per cent; since this level is probably slightly below potential, it leaves slack for a gradual reduction in inflation.²⁰ (These points are discussed in somewhat greater detail below). In the early 1980s, real growth is projected to vary little from that in the U.S., partly because U.S. fiscal policy is less restrictive than Canadian fiscal

20 The base case presented was developed in February 1982. As this report was being written (April 1982) the National Accounts for the fourth

Figure 2.1

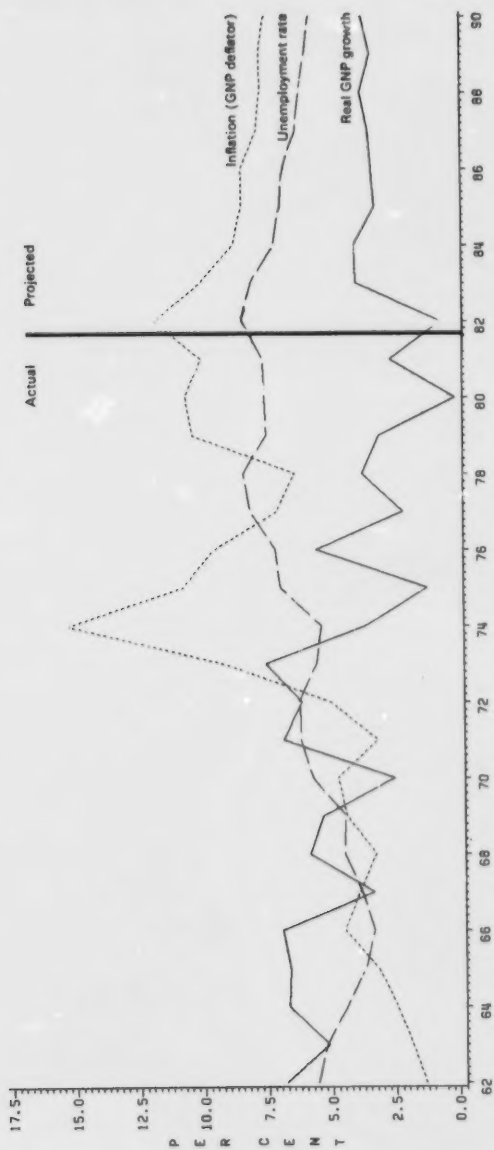
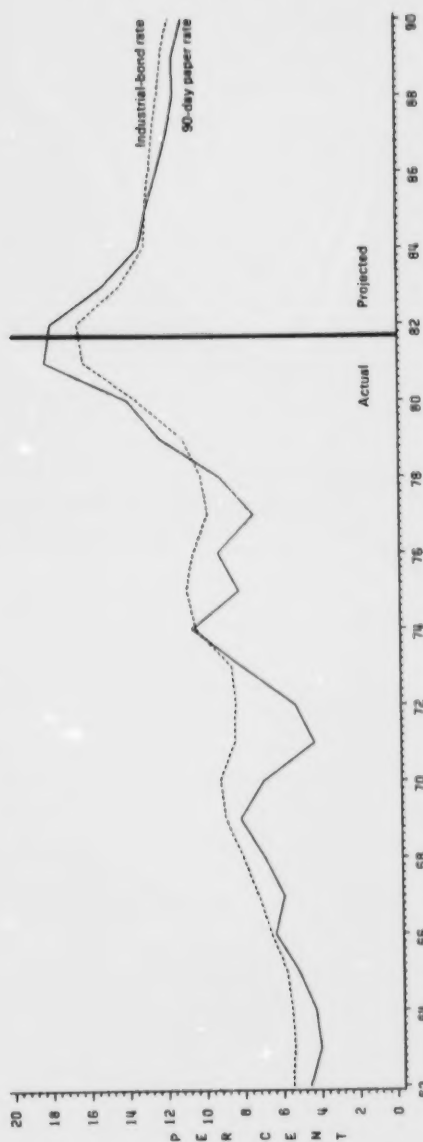


Figure 2.2
Unemployment rates



Figure 2.3
Interest rates



policy in the first part of this period, partly because Canada has more inflationary pressures to absorb. In the latter half of the decade, however, the Canadian growth rate returns to its historical position above the United States', because this country has more investment opportunities (largely in resources) to exploit, because our labour-force growth is somewhat higher (partly the result of higher per-capita immigration), and because, as we have seen, Canadian policy leans slightly more than U.S. policy towards real growth and away from anti-inflationary restriction.

Canadian inflation remains above American, repeating the pattern evident in the 1960s and 1970s. The difference is much larger in the early 1980s when, as we have seen, Canada is absorbing energy-price rises and a number of special factors, including deregulation in visible sectors and a high degree of political consensus, are keeping U.S. inflation down. Despite our higher inflation, the Canadian dollar is projected to appreciate slightly as a result of large capital inflows financing major resource projects.²¹ Moreover, in the latter half of the decade, the development of alternative petroleum sources and the substitution of alternative fuels (notably natural gas) lead to considerable reduction in petroleum imports. The capital inflows and reduction in petroleum imports combine to offset the adverse impacts of higher Canadian inflation on the balance of payments.

The unemployment rate declines gradually, the 'full-employment' unemployment rate also falls; the projected unemployment rate of 5.7 per cent in 1990 is still above - or at least approximately equal to - the 'full-employment' unemployment rate.

Real and potential growth

Medium- and long-term projection studies can usefully compare real growth

quarter of 1981 were released, and the short-term outlook for 1982 had worsened. Our figures for GNP growth for 1981 have turned out a trifle low, and those for 1982 will probably prove rather too high. Any additional worsening in 1982 is likely to be offset by a larger-than-projected rebound in 1983, unless policy continues to be severely restrictive. Readers are reminded again that the focus of this study is the medium term, and that the projected short-run cyclical fluctuations in the first years are only approximations.

- 21 Planners should give larger-than-normal error tolerances to projections for the exchange rate. A wide variety of factors can alter them.

TABLE 2.7
Potential GNP: past and projected growth rates

	Annual average		
	1962-73	1974-80	1981-90
Growth in employment at 'full employment'	2.8	3.2	2.3
Growth in capital stock	5.5	5.5	5.9
Total factor productivity growth	1.8	0.5	0.5
Cobb-Douglas weights			
+ .65 X labour	1.8	2.1	1.5
+ .35 X capital	1.9	1.9	2.1
+ Total factor productivity	1.8	0.5	0.5
= Estimate of potential growth	5.5	4.5	4.1
Real GNP growth	5.8	2.7	3.2

with projected potential growth. The latter is, of course, an estimate - of how much the economy could grow if all its resources were 'fully employed' from year to year - but since it is grounded in the supply side of the economy, it provides a crosscheck on projections of growth and inflation that have been developed with greater attention to aggregate demand.²²

Table 2.7 presents potential GNP growth rates for the 1960s, 1970s, and 1980s. (It must be stressed that these are very crude estimates. Their sole purpose is to demonstrate that the projections of future growth are not unreasonable on the basis of the past behaviour of the economy or the more solid foundations of demographic projections; neither are they inconsistent with a gradual reduction in the inflation rate.)

The calculation of potential growth depends on three factors: growth in the number of workers available at full employment, in the capital stock, and in a residual component called total factor productivity (not to be confused with labour productivity, which is output per worker or hour). Each element presents difficulties in measurement.

Growth in employment at full employment depends on growth in the labour-force source population, which is relatively easy to measure and to project, and on changes in the 'full-employment' unemployment rate, whose

22 For recent discussions of the concept of potential GNP, see Dungan and Wilson (1982) and Carmichael (1979).

measurement always depends to some extent on judgement. Fortunately, demographics tend to dominate, and the past and projected figures for growth in employment at full employment are the most reliable ones in Table 2.7. Still, movements in the 'full-employment' unemployment rate are important; they tend to offset the demographic rise in 1971-80 and mitigate the downswing in labour-force growth in the 1980s.²³

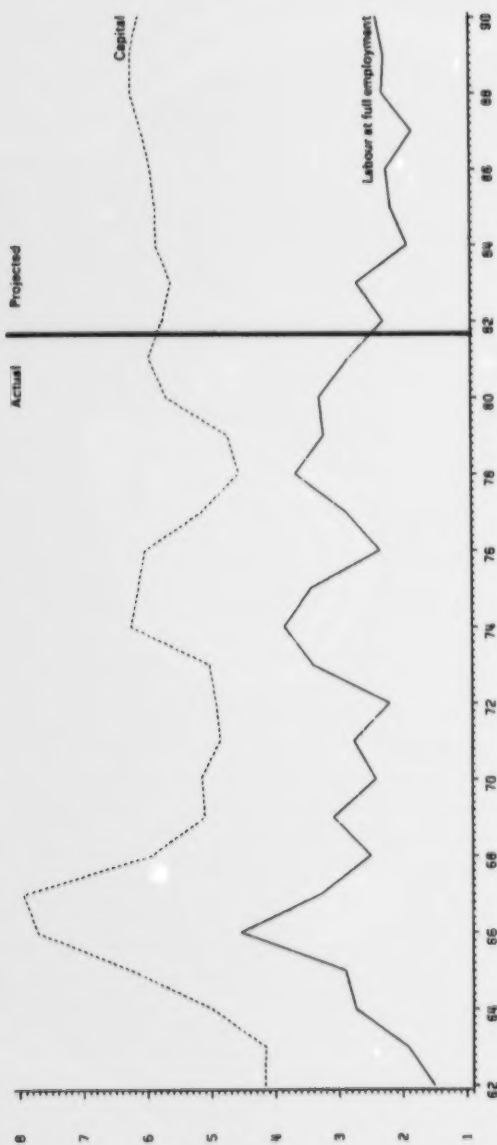
As shown in Figure 2.4, capital formation is clearly the main contributor to potential growth in the 1980s, with the rate of capital accumulation exceeding that of the earlier decades. Yet the exact contributions of labour and of capital to growth cannot be certain. Growth in the capital stock must, to some extent, be surmised from base-case investment flows, allowing for a constant depreciation rate. And it has been suggested that many investors in energy-intensive capital accelerated depreciation during the 1970s in the face of higher energy prices, a practice that would tend to reduce the estimates of the contribution of capital to potential growth.

The concept of total factor productivity is an attempt to account for the contribution of technical change and of institutional and other factors to potential growth.²⁴ Most researchers now recognize that this source of growth declined sharply between the 1962-73 and the 1974-80 period,²⁵ although the source of that decline is still a subject of debate, and a conservative estimate projects the low rate to continue through the 1980s.²⁶ The fall-off may include the already mentioned effects of the enhanced depreciation of capital; if so, the contribution of capital is overstated and that of total factor productivity understated.

Because of the difficulties of measurement, it is not completely clear how the two major components of growth - capital and labour - should be combined to obtain an estimate of potential GNP growth. The most common method uses weights obtained from relative income shares in the economy (often imposed to produce a Cobb-Douglas production function). Using this method yields

- 23 The measure used for employment at full employment does not attempt to account for the discouraged worker effect; that is, if the economy runs at full employment during the 1980s, many 'discouraged' workers might be tempted to re-enter the labour force, increasing the economy's potential.
- 24 For a discussion of this and other concepts related to productivity, see Denny and Fuss (1983).
- 25 Estimates for the two historical subperiods are taken from Dungan and Wilson (1982) and the FOCUS model, which yield very similar results.
- 26 The Conference Board of Canada (1981a; 1981b) is among those who have adopted this estimate.

Figure 2.4
Sources of potential growth (growth rates of capital
and labour at full employment)



estimates of potential GNP which, as shown in Table 2.7, suggest that, on average, the economy was operating at, or even above, potential in 1962-73 but well below it in 1974-80. The latter period was, of course, a time when many western nations were attempting to keep considerable slack in their economies to fight external inflationary shocks and their reverberations through increased inflationary expectations.

For the 1981-90 period, the same calculation obtains an estimate of 4.1 per cent for annual potential growth, a rate that is slightly below the average for 1974-80 and that declines steadily in the latter half of the decade. The estimate may be somewhat high in that it depends heavily on the growth of capital and a large portion of the decade's investment is projected to concentrate on large-scale resource-extraction projects, which may well contribute less to potential growth than capital investment has in the past, especially in the 1960s. (However, this effect is captured, to some extent, by the low projected growth in total factor productivity.) But even if the projection of potential growth is somewhat optimistic, it indicates that the basic projection for GNP growth is not only feasible but allows for enough slack in the economy to decrease the rate of inflation gradually.²⁷

The components of real GNP

One must examine the various expenditure categories of real GNP, both to check the sources of demand-side growth in the economy and to ascertain the expenditure components that affect the projections for different industries and for the province of Ontario. Table 2.8 summarizes growth rates by expenditure components, while Table 2.9 and Figure 2.5 show the changing shares of the various components over time. Table 2.23, at the end of chapter, details year-by-year projections.

27 In one version of the FOCUS model, the production function is estimated under the assumption that some labour and machinery and equipment are overhead to plant-in-place. Under this formulation, the weights for the contributions to growth used in Table 2.7 are almost exactly reversed, with capital receiving a weight of 0.63. If these weights are more accurate, then the potential growth rate in the 1980s would not decline as much as shown in the table, since the major source of decline there is the lower growth rate of the labour component. If this component has a lower weight, potential growth could be as much as 5 per cent in the 1981-90 period. This alternative calculation is, however, highly tentative.

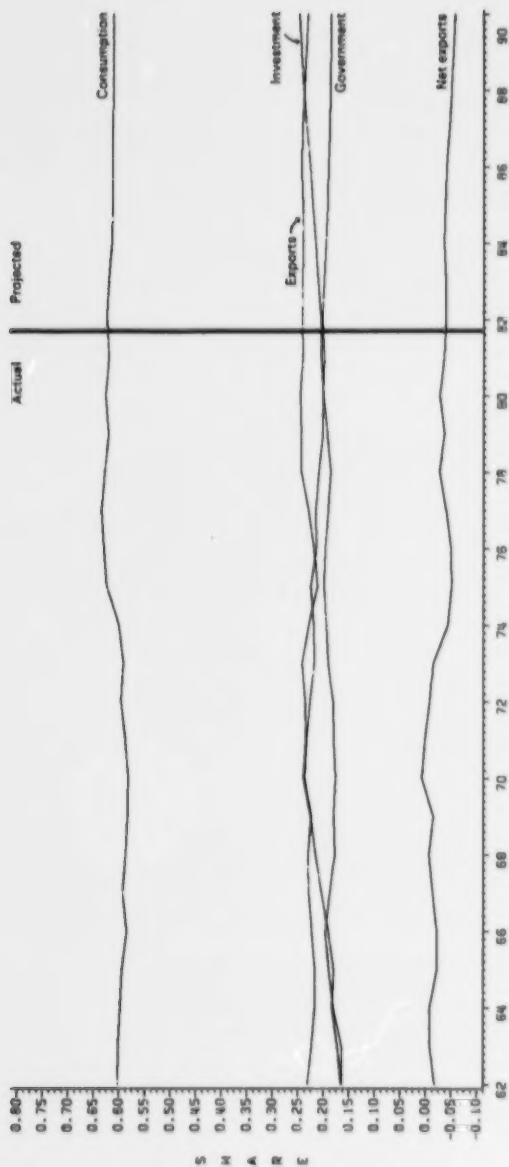
TABLE 2.8
Major components of Real GNP: summary

	Annual average growth rate				
	1961-73	1974-80	1981-3	1984-6	1987-90
Consumption	5.5	3.6	2.0	3.1	3.4
Consumer durables - autos	9.7	1.7	0.6	4.5	2.9
Consumer durables (except autos)	9.5	4.8	3.0	3.8	5.2
Investment (private)	6.9	3.5	4.1	5.9	5.9
Residential	7.7	-2.3	1.2	2.5	1.5
Nonresidential structures	4.6	6.6	5.4	6.9	6.3
Machinery and equipment	9.1	4.8	4.3	6.3	7.1
Government (current and capital)	5.2	1.6	2.1	1.9	2.8
Exports	9.0	3.1	2.0	3.5	2.3
Imports	8.5	3.7	3.4	3.8	3.9

TABLE 2.9
Shares of GNP by expenditure category

	Annual average shares				
	1961-73	1974-80	1981-3	1984-6	1987-90
Consumption	0.59	0.63	0.62	0.62	0.61
Consumer durables - autos	0.032	0.036	0.031	0.032	0.032
Consumer durables (except autos)	0.051	0.073	0.077	0.078	0.082
Investment (private)	0.18	0.20	0.21	0.22	0.24
Residential	0.048	0.048	0.037	0.037	0.034
Nonresidential structures	0.066	0.066	0.081	0.088	0.099
Machinery and equipment	0.068	0.081	0.091	0.098	0.111
Government (current and capital)	0.23	0.21	0.20	0.19	0.19
Exports	0.21	0.23	0.24	0.24	0.24
Imports	0.22	0.27	0.28	0.28	0.29

Figure 2.5
Shares of expenditure components



The demand-side sources of growth in the 1962-74 period were broad based, led by exports and investment (both residential and nonresidential) and closely followed by consumption (especially of durables) and government. In the 1974-80 period, demand was maintained by nonresidential investment and consumption of durable goods, except automobiles. Exports grew faster than real GNP, but imports outpaced them; the contribution of net exports, therefore, turned negative.

By contrast, nonresidential investment is projected to lead growth in the 1980s. Consumption keeps somewhat behind real growth, as would be expected. Durable goods, including automobiles, make some recovery, although auto consumption never comes close to the heights of 1962-74. In the mid-1980s, residential investment has a partial recovery, based on the release of pent-up demand, but the passing of the baby boom means, to some extent, the passing of the housing boom. Only a major rise in net migration within Canada (which is not projected in the base case) could lead to significantly greater residential investment activity. Net exports continue a negative contribution in real terms; however, the terms of trade show an upward trend, which means that the continued growth of imports over exports does not have serious implications for the balance of payments.

Thus, nonresidential investment is left as virtually the sole 'engine of growth' on the demand side in the 1980s. The preceding two decades did not see demand growth so concentrated in a single category, and the outlook for the 1980s is, therefore, more precarious than it would be if the growth projection were more broadly based. A major faltering in investment prospects could cause a significant downturn unless other demand categories, such as consumption or net exports, were boosted. Another alternative, of course, would be less of the envisaged investment being undertaken by private corporations and more by Crown corporations or by governments themselves. Such a switch would leave most elements of the macroeconomic projection unchanged.

Particularly significant for Ontario in this analysis are the high growth rates projected for investment in machinery and equipment (of which Ontario is a major supplier in Canada), as well as the falls in net exports and in government (Ontario has a higher-than-average share of more vulnerable exporting and import-competing firms and, given the presence of the national capital, of government).

The Ontario Economy 1982 - 1995

TABLE 2.10

Inflation, unemployment, productivity, and real incomes

	Annual average				
	1962-73	1974-80	1981-3	1984-6	1987-90
Actual (or estimated) unemployment rate	4.9	7.3	8.0	6.9	6.0
'Full-employment' unemployment rate	4.3	5.9	5.2	5.0	4.8
Inflation rate (GNP deflator)	3.9	10.0	10.6	8.5	7.9
Inflation Rate - CPI	3.5	9.3	11.5	8.8	7.9
Productivity growth (GDP/employee)	2.5	0.1	0.1	1.2	1.0
Growth rate					
Real compensation per employed person ^a adjusted by GNP deflator	2.7	-0.3	-1.7	-0.5	0.3
adjusted by CPI	3.1	0.3	-2.4	-0.8	0.1
Real personal income per employed person adjusted by GNP deflator	3.0	0.4	-0.5	-0.2	0.4

a Compensation defined as wages, salaries, supplementary labour income and the income of unincorporated enterprises (farm and nonfarm).

Inflation and unemployment

Past and projected inflation and unemployment are compared in Table 2.10 and Figures 2.1 and 2.2. A useful benchmark for examining inflation and unemployment is the 'full-employment' unemployment rate already described.²⁸ More important than this rate's level is its relative movement against the projected (or actual) unemployment rate. Clearly, the 1962-73 period was near or even above 'full-employment' while 1974-80 was a time of labour-market slack, perhaps of considerable slack. During the latter period, the

28 As we have noted, the actual level of this rate is difficult to determine and subject to much judgement. The estimate used here, based on work by Dungan and Wilson (1982), is conservatively low, and could perhaps be one-half to one percentage point higher (although the latter would imply that 'full-employment' meant a nearly 7 per cent unemployment rate in the 1974-80 period).

pressure of unemployment doubtless helped to keep the inflation rate lower than it might have been, but the sources of inflationary acceleration were outside the labour market itself.²⁹ The 'full-employment' rate is projected to slightly decline during the 1980s, yet, at least in the early part of the decade, the measured rate is quite high. This situation suggests the presence of greater slack in labour markets than in the 1974-80 period, and the inflation reduction that is projected to begin in the early 1980s, along with corresponding inflation reduction, by the same method, in the U.S.

Labour market slack is reduced in the later 1980s but not eliminated - even if one assumes a 'full-employment' unemployment rate that is considerably higher than the one we use. Thus the rate of inflation continues to fall, but more slowly than in the early years of the decade.

Table 2.10 also summarizes inflation as measured by the Consumer Price Index (CPI). This rate is projected to rise rather quickly in the 1981-3 period, mostly because of the pass-through of higher energy prices; then it falls with the inflation rate as measured by the GNP deflator. Notice, however, that CPI inflation remains somewhat above GNP-deflator inflation, a slightly suspicious result that should perhaps be discounted.

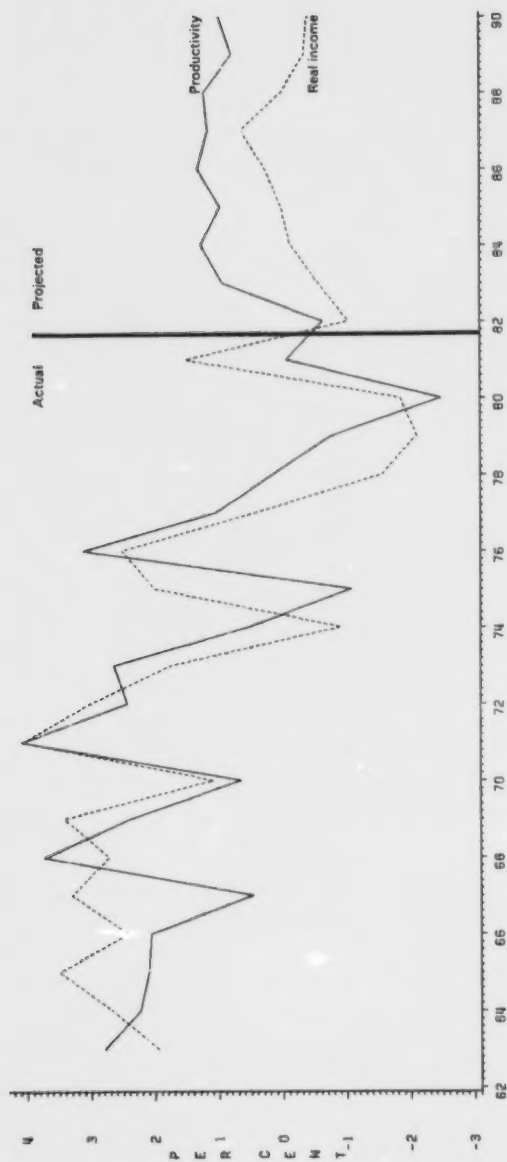
At the end of the chapter, Table 2.24 gives detail on deflators for the major components of GNP; they have not been as carefully developed as the GNP aggregate deflator and should be used with care. Table 2.25 gives the labour-market details that underlie the unemployment-rate estimates.

Productivity and real incomes

As already mentioned in the discussion of assumptions, the projection includes a modest rally in labour productivity once the economy emerges from its cyclical trough of 1981-2 and there is some recovery from the disturbances of the 1974-80 period (see Figure 2.6 and Table 2.10). The middle-to-late 1980s reach a productivity growth rate of a little over 1 per cent annually, still well below the rate achieved in 1962-73.

29 The estimate of the 'full-employment' rate is intended as an approximation of the rate at which the labour market would not, of itself, cause the inflation rate to accelerate or decelerate. This is not to say that the inflation rate could not be accelerated by shocks from outside the labour market, which policy might then fight by inducing labour-market slack. Some higher estimates of 'full-employment' unemployment rates have implicitly included this slack.

Figure 2.6
Growth of productivity and real incomes



The last three lines of Table 2.10 give three estimates of the growth of real income per employee - no one definition is completely satisfactory - and Table 2.26 at the end of the chapter gives greater detail on national and personal incomes. During the 1962-73 period, real income growth was above productivity growth, marking something of an income shift to labour and perhaps fuelling the beginnings of inflation, but during the 1974-80 period, the growth of both productivity and real incomes was low. The projection for 1982-3 is a major squeeze, with real incomes falling by all measures, while productivity remains more or less constant. The consequences of a continued, though less severe, anti-inflation push in the later 1980s are seen in the projection of real income growth continuing to lag behind productivity.

These results may be a trifle oversevere; some additional real income gains could be projected without making the inflation estimates inconsistent. It is also important to note that low, even negative, real income growth per employee does not necessarily mean that present employees face a time of no gains. Over the decade, new members join the ranks of the employed (thus the unemployment rate falls), but many of the new jobs are relatively low-paying and, as we shall see, in the service sector. These pull average real incomes down to the point of little or no growth. There remains considerable room for income gains in the sectors of higher productivity.

Financial markets

The key financial variables of the projection are summarized in Table 2.11 and given in year-by-year detail in Table 2.27; Figures 2.7 and 2.8 plot the growth rates and velocities of the money supply, defined as M1 and M2. The money market presents major problems for projection because historical relationships have broken down in recent years, altering it in fundamental ways. Consequently, we concentrate on interest-rate movements and pay less attention to growth projections for the money supply, especially for narrowly defined money, M1.

The assumption is that M1 growth rises back within the Bank of Canada's target bands by 1982 and grows at 5 to 6 per cent per year through the rest of the decade. However, the results for real growth and inflation imply that the velocity of M1 (the ratio of nominal GNP to the M1 stock) must grow considerably faster through the decade. This only continues past trends; under increased inflation and interest rates, the velocity of M1 has

The Ontario Economy 1982 - 1995

TABLE 2.11
Financial variables: summary

	Annual average				
	1962-73	1974-80	1981-3	1984-6	1987-90
Inflation rate (GNP deflator)	3.9	10.0	10.6	8.5	7.6
Velocity					
Nominal GNP/M1	8.4	10.6	13.7	16.7	20.7
Nominal GNP/M2	2.9	2.5	2.3	2.4	2.4
Interest Rate					
90-day finance company paper	5.8	10.0	17.0	12.8	11.3
Industrial bonds	7.3	10.8	15.6	12.8	12.0
Real 3-to-5 year government bond rate ^a	2.0	.4	5.0	3.5	3.7
Real internal after-tax rate of return on new investment	10.5	6.4	4.1	5.4	6.3

a Real interest rate, defined as nominal rate less expected inflation (as determined in FOCUS model), rather than realized inflation.

risen 7.4 in 1962 to about 13 in 1981. We assume that further money market advances continue to allow individuals and firms to economize on their holdings of M1, avoiding a sustained period of low growth caused by credit restriction. However, we also assume that M2, the more broadly defined money supply, continues to grow at rates considerably above those of M1. Velocity for M2 is projected to remain fairly constant at past levels.

A major alternative to this projection is the continued increase of M1 velocity becoming impossible. In this case, for the Bank of Canada to let M1 grow at its target rate would require lower inflation or lower real growth - most likely, a combination of both - throughout the decade. Monetary tightness resulting in continued real-growth stagnation could also lead to the adoption of higher growth targets for M1; in that case, the projections here could be realized, but at lower M1 velocities.

Tables 2.11 and 2.27 also show past and projected levels of real interest rates and real rates of return, which are shown graphically in Figure 2.9.³⁰

30 In FOCUS, the real interest rate is the traditional definition: nominal rate less the expected, not the realized, rate of inflation. The real rate of return is an approximation constructed by the model relating net earnings from new investment and initial costs.

Figure 2.7
The money supply and GNP: growth rates

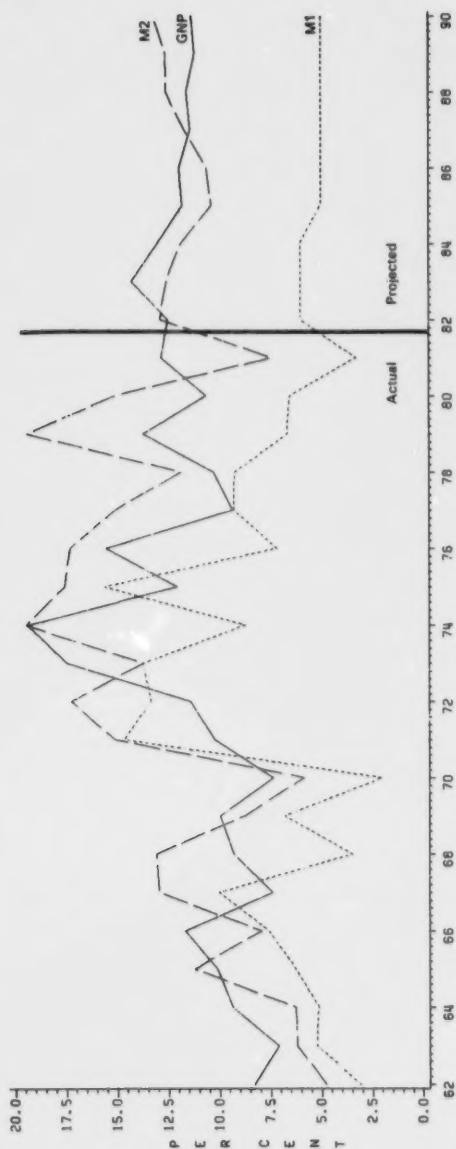


Figure 2.8
Velocity of money supply

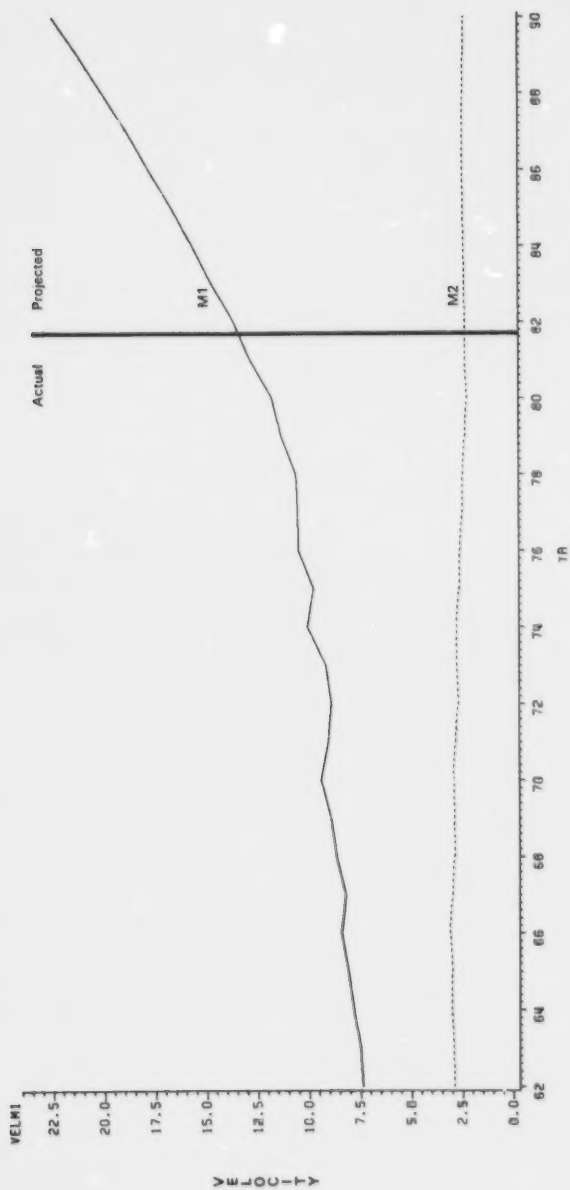


Figure 2.9
Real interest rates and rates of return



• Estimated.

Real rates fell quite low during the inflation rise of the 1970s, but then they soared to quite high levels in the early 1980s. They are projected to decline, but to levels still somewhat above those of the 1962-73 period. Meanwhile, the real internal rate of return (which is only a rough estimate) recovers from its current low levels, leaving a differential between the rate of return and real borrowing costs that is a stimulus to investment. However, this incentive alone is insufficient to explain the extent of investment projected to lead growth in the 1980s. At least some of the decade's investment must be for extraordinary reasons - for resource development, whose rewards cannot be factored into the rate-of-return variable, and for the preservation of particular industries or sectors - that do not always lead to classical profit-maximizing behaviour.

Savings

Sources and disposition of savings

Since capital formation is projected to play the leading role in growth in the 1980s, an examination of the financing of this investment is even more important than usual. Table 2.12 and Figure 2.10 show the components of total savings in historical figures and projected values; Table 2.28 presents more detailed projections.

As the tables demonstrate, the principal sources of savings changed considerably from one historical reference period to the next. The projection for the 1980s has most of the sources of savings returning to relative shares that are closer to those of 1961-73 than to those of the latter period. For example, personal saving rose considerably in 1974-80; recent work (Jump, 1980, and others) suggests that part of this shift was caused by the acceleration of inflation.³¹ No doubt, some also resulted from the various tax incentives favouring saving that were introduced during this period. In the projections, the importance of personal saving decreases somewhat, partly because income growth is relatively low and partly because the personal sav-

31 In fact, some writers also suggest that some of this measured increase is spurious, an attempt by households to preserve their real asset levels. By the same token, it is suggested that some government and corporate dissavings and some additional saving from the foreign sector is also spurious in that these movements represent no 'real' change in asset or liability accumulation.

TABLE 2.12

Sources of savings (percentage shares of gross domestic capital formation): summary

	Annual average				
	1961-73	1974-80	1981-3	1984-6	1987-90
Personal saving	18	28	24	21	21
Undistributed corporate profits	18	23	22	23	23
Public sector surplus (+) or deficit (-)	2	- 8	- 3	0	3
Current account deficit (+) or surplus (-)	2	7	8	4	2
Capital consumption allowances	43	40	38	36	37
Inventory valuation adjustment	- 3	- 9	- 7	- 3	- 4
All other ^a	20	19	18	19	18

^a Includes government capital formation, profits of government enterprises, capital assistance, and net transfers on current account.

ings rate falls as inflation abates (see Table 2.26).

The public sector³² moved from being a small contributor to saving in 1962-73 to a position of net dissaving in 1974-80, a change of 10 percentage points that was almost fully offset by the increase in personal saving. The movement is projected to reverse in the 1980s as both federal and provincial government seek nondeficit positions; by the end of the decade the public sector is once more a net source of savings.

By contrast, the foreign sector increased its importance as a source of savings during the 1974-80 period. Its importance persists in the early 1980s, then gradually recedes to levels closer to the 1963-74 period.

Often neglected in the discussions of saving are the major contributions of capital consumption allowances and of the inventory valuation adjustment, although the former is the largest single source of gross savings. During 1974-80, the net contribution of the two items fell considerably compared to the previous period. Again, accelerated inflation was probably the cause, since capital consumption allowances are generally computed at historical cost, not inflated replacement cost. In the 1980s, as inflation abates, the share of

32 Here measured by the public sector's deficit/surplus, not as public-sector saving.

Figure 2.10
Components of savings

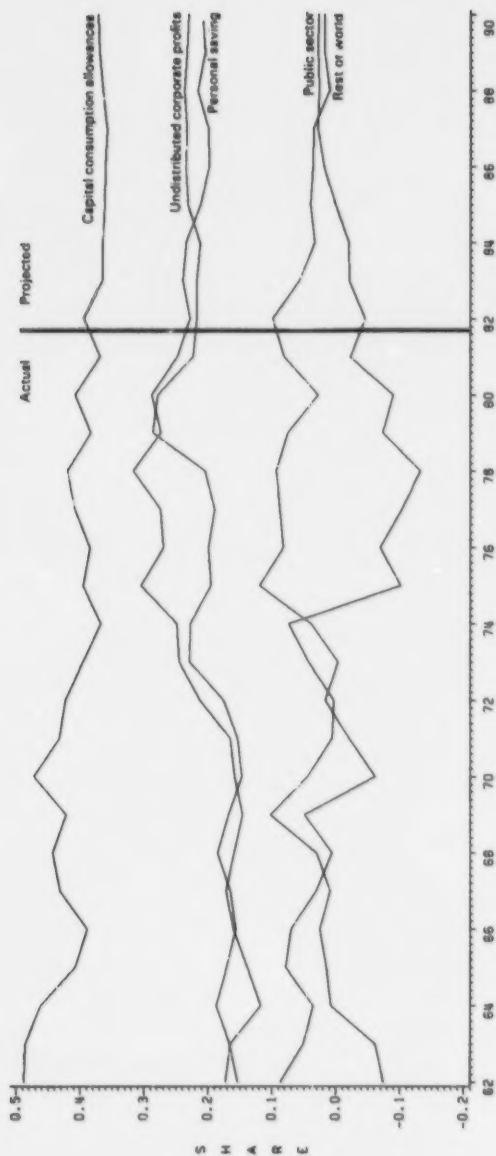


TABLE 2.13
Government balances: summary

	Annual average				
	1961-73	1974-80	1981-3	1984-6	1987-90
Surplus or deficit (\$ millions)					
Total	353	-3873	-2638	334	6055
Federal	100	-6279	-7169	-4462	365
Provincial	-164	1	1358	1373	1917
Other ^a	417	2406	3173	3423	3773
Nominal GNP (\$ billions)	74	214	372	534	785
Surplus or deficit (% of GNP) ^b					
Total	0.5	-1.8	-0.7	0.1	0.8
Federal	0.1	-2.9	-1.9	-0.8	0.0
Provincial	-0.2	0.0	0.4	0.3	0.2
Other ^a	0.6	1.1	0.9	0.6	0.5

a Includes local government, hospitals, and the public pension plans.

b Detail may not add to total because of rounding.

capital consumption allowances levels off. However, it does not climb back to the heights of the 1960s; inflation remains above 1962-73 rates, so historical costs still trail behind replacement costs.

Government balances

The past and projected behaviour of the government balances is summarized in Table 2.13 and Figures 2.11 and 2.12; at the end of the chapter, Table 2.29 gives year-by-year details, and Tables 2.30 and 2.31 give expenditures and revenues for the federal and provincial governments. The last two should be examined with caution, since the projection concentrated more on aggregate figures than on their detailed components. Indeed, even the aggregate balances must be considered looser-than-usual approximations since government balances, as residual items, are subject to considerable change by slight alterations in assumptions.

The projected pattern, however, is quite clear: the aggregate government balance moves into considerable surplus (0.8 per cent of GNP in the last four years of the decade). This movement is largely the result of a shift in

Figure 2.11
Government balances

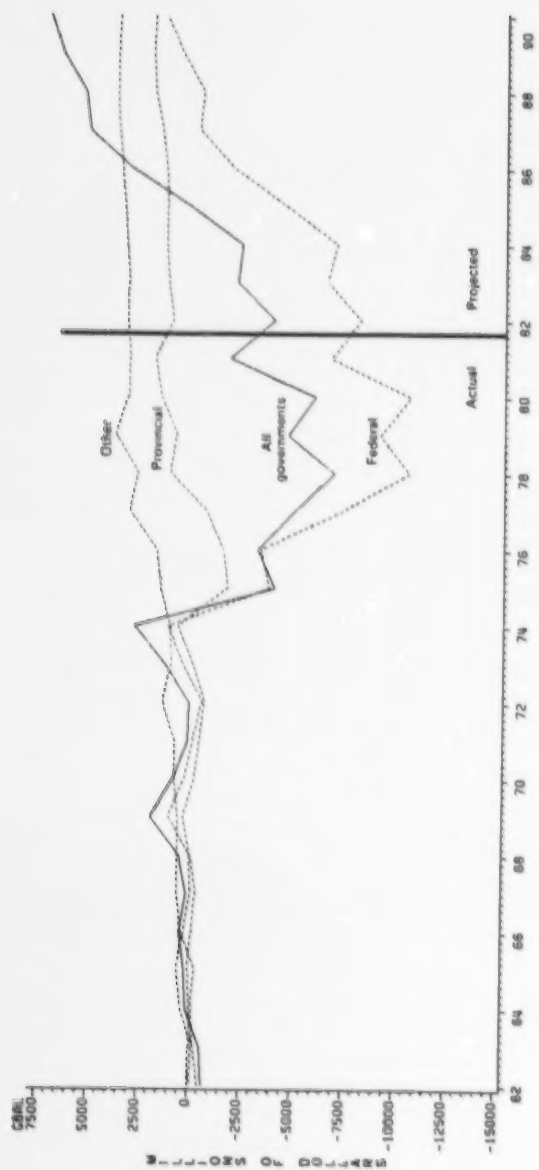
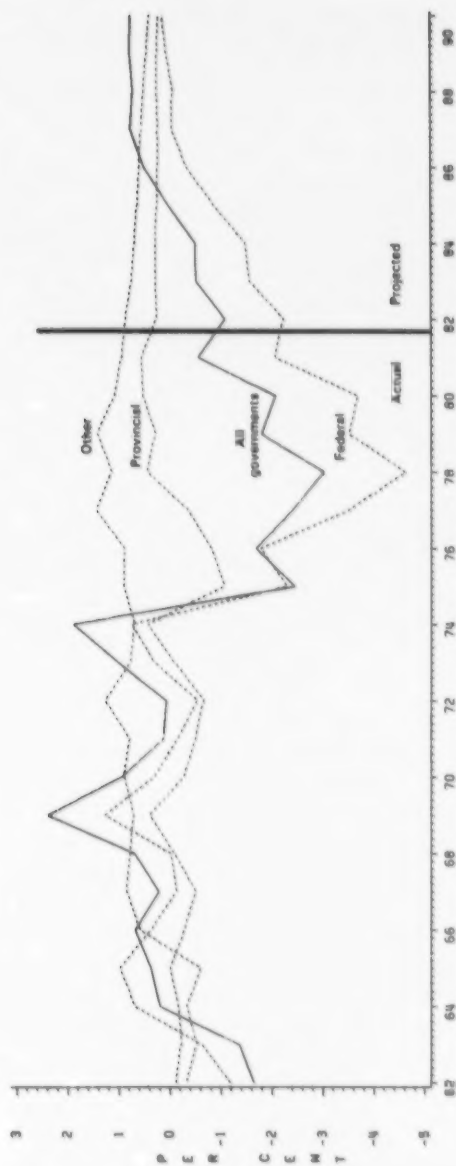


Figure 2.12
Government balances as percentages of GNP



the federal position from a considerable deficit in 1974-80 and 1981-83 to a small surplus at the very end of the decade. Meanwhile, the provinces overall retain a modest net surplus, although it is, of course, unevenly spread among them. However, the size of the provinces' surplus relative to GNP declines somewhat over the 1980s. Finally, the 'other' category (principally the public pension plans) also maintains its surplus, although the ratio of the pension plans' surplus to GNP also declines because of increased pay-outs in the 1980s.

The projected reduction in the aggregate deficit has two causes. First, taxation on and royalties from petroleum and natural gas increase revenues at a number of sources. Second, the 1980s are a period of sustained, if modest, growth combined with continued, but not severe, restraint in government expenditure. Thus, over the decade, tax revenues grow gradually faster than expenditures, and a slow transfer to surplus results.

An additional factor affecting the federal position is a considerable projected reduction in the growth of net transfers to the provinces. The overall provincial position remains in net surplus, but considerable fiscal difficulties may arise for particular provinces.

Balance of payments and exchange rate

The projections show a very gradual rise in the exchange rate³³ and an improvement in balance of payments. Table 2.14 and Figures 2.13 and 2.14 show these changes in summary; Table 2.32 details them.

The shift in the balance of payments has a number of movements underlying it. As we have seen, the balance of real exports and imports is not an engine of growth; rather, real export growth is kept low by the Canadian inflation rate's exceeding the American and by the gradual appreciation of the Canadian dollar. However, a significant upward movement is projected in the terms of trade (the ratio of average export prices to average import prices) because of the sizeable reduction in one very high-priced import - petroleum. At the same time, Canadian oil and gas exports are projected to remain high and even to increase slightly. Thus, the terms of trade shift, and the nominal balance of merchandise trade swings considerably in Canada's favour

33 Throughout this study, the exchange rate is defined as \$U.S./\$Canadian so that a rise in the exchange rate is equivalent to an appreciation of the Canadian dollar

TABLE 2.14

The balance of payments and the exchange rate: summary

	Annual average				
	1962-73	1974-80	1981-3	1984-6	1987-90
Exchange rate (\$US/\$CDN)	0.949	0.935	0.840	0.856	0.868
Terms of trade (1971=1.0)	1.014	1.085	1.076	1.115	1.189
In millions of dollars					
Current account balance	-360	-3728	-7079	-5083	-4315
Balance on trade	1232	3046	7197	17116	30639
Balance on capital service	-890	-3592	-7345	-12806	-23113
Balance on other service ^a	-837	-3739	-8121	-10486	-13150
Net long-term capital flows	1120	3534	4190	6821	6383
Net short-term flows	-514	-433	2411	-1954	-2284
As percentage of nominal GNP					
Current account balance	-0.7	-1.8	-1.9	-0.9	-0.6
Balance on trade	1.5	1.3	1.9	3.2	3.9
Balance on capital service	-1.2	-1.6	-2.0	-2.4	-2.9
Balance on other service ^a	-1.1	-1.7	-2.2	-2.0	-1.7
Net long-term capital flows	1.6	1.8	1.1	1.3	0.8
Net short-term flows	-0.6	-0.2	0.7	-0.4	-0.3

a Includes 'errors and omissions', which are mostly unmeasured capital flows.

through the 1980s. However, since the energy trade is so critical to this result - and thus to the results for the whole balance of payments - it and the exchange-rate projection must be considered more uncertain than other aspects of the projection.³⁴

While the merchandise balance is projected to improve in nominal (not real) terms, the service account worsens through the 1980s - especially in capital service (the payment of interest and dividends abroad). This is the result of interest rates that are high (relative to all but the last few years) and of the heavy long- and short-term borrowing projected at least through the middle of the decade. In other words, Canada must generate a larger and larger merchandise surplus in the 1980s to service its borrowing.³⁵

34 The risks are not all 'down'; successful exploitation of new energy sources in Canada, coupled with a major oil disruption in the later 1980s, could result in a very large merchandise surplus - which would pose its own problems.

35 Note that this projection is not necessarily an argument against foreign borrowing. Many large corporations also borrow heavily to finance invest-

Figure 2.13
The exchange rate and the terms of trade

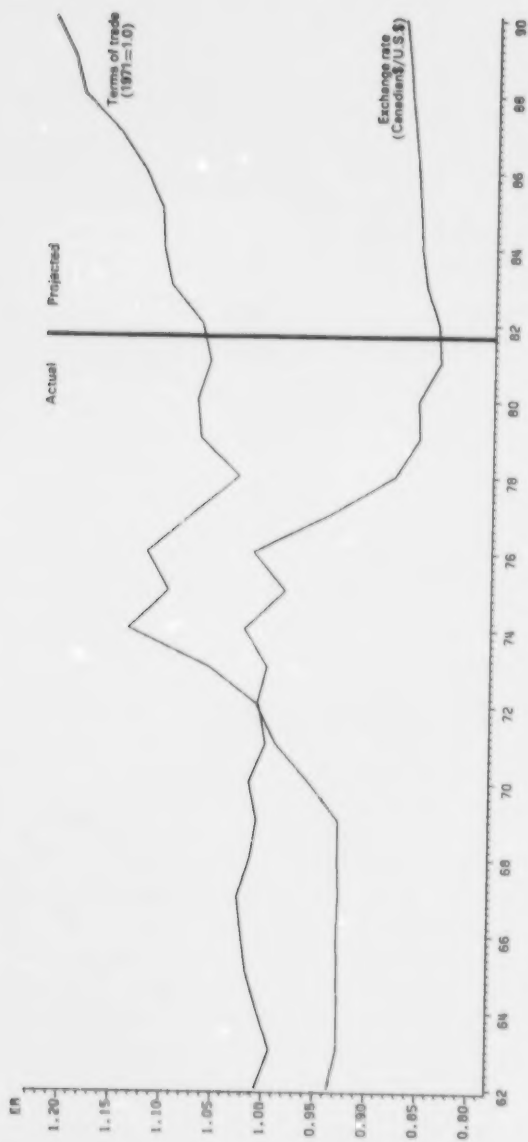
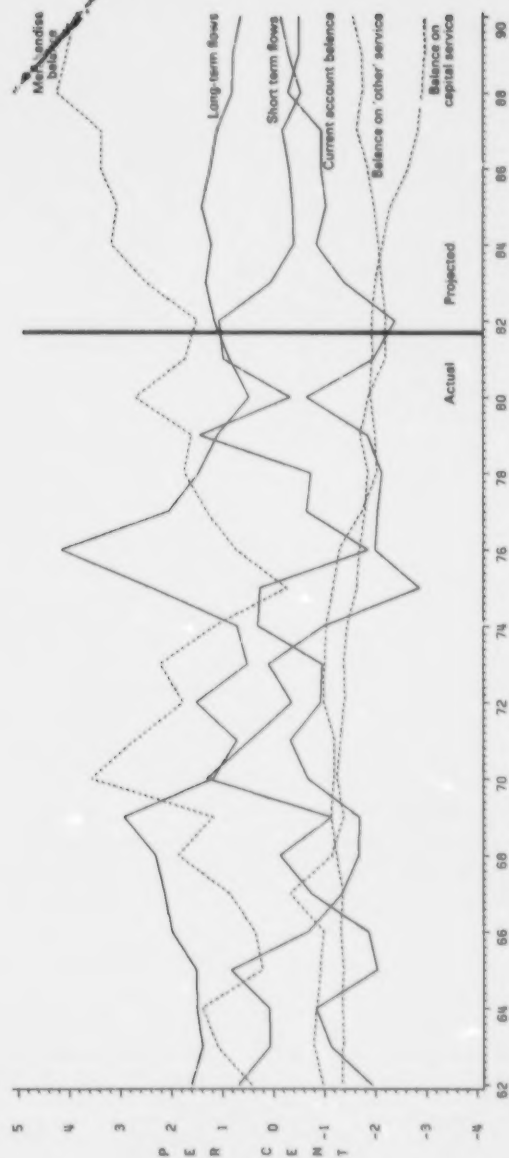


Figure 2.14
Trade and capital-flow balances as percentages of GNP



Foreign borrowing does fall in the later 1980s, although the projected net amount for the 1987-90 period, 0.5 per cent of GNP, may be rather too small - note that net borrowing was about 1 per cent of GNP in 1962-73. The 1981-83 period is unusual in that net short-term borrowing is positive. Historically, Canada has tended to borrow long and lend short. Still, resort to short-term funds is a common phenomenon in the early 1980s, a period of high and volatile interest rates. The stabilization and partial reduction in rates projected for the later 1980s causes a re-emergence of the older pattern.

INDUSTRIAL DETAIL

The national projection's implications for various industries provide a major connection between it and the projection for Ontario. This section discusses the projection for industrial output (value-added) and employment at the national level. The results are summarized in Tables 2.15 through 2.18 and Figures 2.15 and 2.16, while year-by-year details are in Tables 2.33 and 2.34 at the end of the chapter.³⁶

Of the major industrial aggregates, the service sectors were responsible for the greatest share of employment creation in both 1962-73 and 1974-80. In the earlier period, the high share reflects the lower rate of productivity growth for services, but in 1974-80, the real output of services grew considerably faster than that of the goods-producing sector.³⁷

In the 1980s, the relative strength of the service sector is projected to continue; employment creation here is especially high. By the end of the decade, the service sector provides approximately 60 per cent of total employment (compared to 46 per cent in 1962-73) and supplies about 55 per cent of real output; its smaller share of output is another reflection of the sector's relatively low productivity growth.

The goods-producing sectors and manufacturing are both projected to

ment that they perceive to be profitable. They must, however, actually generate the profit to service their debt.

36 Note that the figures for value-added by industry are on the basis used by Statistics Canada before a major revision released in late 1981. Therefore, in looking at output, the reader should focus more on projected growth rates rather than on levels.

37 The summaries in Tables 2.15 and 2.16 may overstate the effect since 1980 was a year of recession, and a recession tends to hurt goods-producing industries more than services.

The National Projection

TABLE 2.15

Canada's output (real domestic product) by industrial aggregate

	Annual average				
	1962-73	1974-80	1981-3	1984-6	1987-90
Growth rates					
Goods-producing industries	6.0	1.9	1.7	3.2	2.5
Manufacturing	6.6	1.6	0.8	2.7	1.5
Services	6.0	4.5	3.3	4.4	4.5
Government ^a	3.7	-0.0	0.8	1.8	2.1
All industries	5.6	2.9	2.4	3.7	3.5
Percentage of total RDP ^b					
Goods-producing industries	0.406	0.384	0.373	0.369	0.358
Manufacturing	0.230	0.221	0.210	0.204	0.192
Services	0.447	0.493	0.519	0.529	0.545
Government ^a	0.148	0.123	0.107	0.102	0.097

a The 'government' sector here is broader than 'public administration and defence'; it includes education and a number of other services, but it does not include hospitals.

b Figure may not add to 1.0 because of rounding.

TABLE 2.16

Canada's Employment by industrial aggregate

	Annual average				
	1962-73	1974-80	1981-3	1984-6	1987-90
Growth rates					
Goods-producing industries	1.5	1.7	1.1	1.5	1.0
Manufacturing	2.5	1.4	-0.1	0.6	-0.5
Services	4.2	4.4	3.7	3.2	3.4
Government ^a	4.3	-0.2	-0.8	1.8	1.8
All industries	3.1	2.8	2.3	2.5	2.5
Percentage of total employment					
Goods-producing industries	0.408	0.350	0.334	0.325	0.310
Manufacturing	0.231	0.202	0.189	0.180	0.164
Services	0.462	0.523	0.563	0.574	0.591
Government ^a	0.129	0.127	0.103	0.101	0.099

a See note a to Table 2.15.

The Ontario Economy 1982 - 1995

TABLE 2.17
Canada's output by industry

	Annual average growth rate		
	1961-73	1974-80	1981-90
Agriculture, fishing, & trapping	2.8	2.5	1.9
Forestry	5.5	-0.3	3.1
Mineral-fuel mines & wells	10.7	-1.2	1.5
Other mines & quarries	4.3	0.9	0.3
Food, feed, beverages, & tobacco	4.3	2.0	1.4
Textiles & clothing	6.7	0.8	-0.7
Wood & furniture	5.8	1.4	2.0
Paper, printing, & allied industries	4.9	2.7	1.0
Primary metal & metal fabricating	6.0	1.8	1.3
Motor vehicles & parts	8.7	-1.5	1.3
Machinery & other transportation equipment	15.3	2.7	3.3
Electrical products	8.1	0.5	1.3
Chemical, rubber, & petroleum products	8.3	2.8	3.3
Nonmetallic mineral products	5.9	-0.5	3.0
Other manufacturing industries	4.7	1.8	-0.6
Total manufacturing	6.6	1.6	1.7
Construction	4.5	2.4	4.4
Electric power, water, & gas utilities	8.0	5.2	4.8
Total goods-producing industries	6.0	1.9	2.5
Transportation & storage	6.6	2.4	2.0
Communication	6.9	8.3	7.3
Trade	6.2	2.7	2.8
Finance, insurance, & real estate	5.2	5.0	4.1
Other service industries	6.0	5.6	4.8
Total service industries	6.0	4.5	4.1
Government sector	3.7	-0.0	1.6
Total: all sectors (real gross domestic product at factor cost)	5.6	2.9	3.2

raise their output growth from the low levels of the early 1980s. Nonetheless, since the bulk of all projected productivity growth is concentrated in these sectors, their employment growth is well below that of the economy as a whole - as it was in 1962-80. Indeed, employment growth in manufacturing is projected as slightly negative at the end of the decade.

Note that these tables' definition of 'government' includes education and other noncommercial services. Employment growth in that sector is projected to become positive again if a gradual but sustained economic expansion can be

TABLE 2.18
Canada's employment by industry

	Annual Average growth rate		
	1961-73	1974-80	1981-90
Agriculture, fishing, & trapping	-2.7	0.8	-2.1
Forestry	-0.8	0.9	2.8
Mineral-fuel mines & wells	1.5	8.0	1.4
Food, feed, beverage, & tobacco	1.0	2.0	0.6
Textiles & clothing	1.8	-0.4	-3.0
Wood & furniture	2.9	0.6	-0.2
Paper, printing, & allied industries	1.8	2.7	0.0
Primary metal & metal fabricating	2.9	1.6	0.4
Motor vehicles & parts	6.7	-1.5	1.5
Machinery & other transportation equipment	3.2	3.4	-0.0
Electrical products	3.2	0.2	-0.6
Chemical, rubber, & petroleum products	1.6	3.0	1.2
Nonmetallic mineral products	2.2	0.7	2.3
Other manufacturing industries	2.9	-0.1	-2.2
Total manufacturing	2.5	1.4	-0.0
Construction	3.3	2.2	5.5
Electric power, water, & gas utilities	3.0	3.4	2.6
Total goods-producing industries	1.5	1.7	1.8
Transportation & storage	1.5	1.3	0.0
Communication	3.7	3.2	3.3
Trade	3.7	3.0	2.5
Finance, insurance, & real estate	4.7	5.4	3.3
Other service industries	5.6	6.1	4.6
Total service industries	4.2	4.4	3.4
Government sector	4.3	-0.2	1.0
Total: all sector	3.1	2.8	2.4

achieved. Nonetheless, the share of 'government' employment is projected to decline slightly over the 1980s.

Individual industries

A summary of growth rates by individual industries is given in Tables 2.17 and 2.18. As we have seen, real demand in the 1980s is projected to be led by investment (especially for megaprojects); net exports and even consumption are relatively weak. Thus, it is not surprising that construction and

Figure 2.15
Output growth by industrial aggregate: Canada

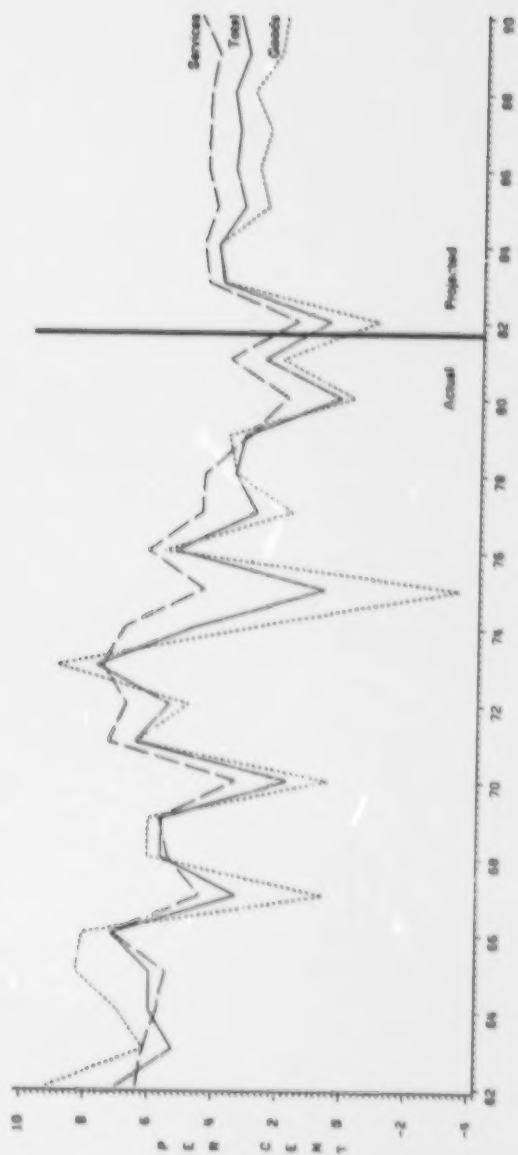
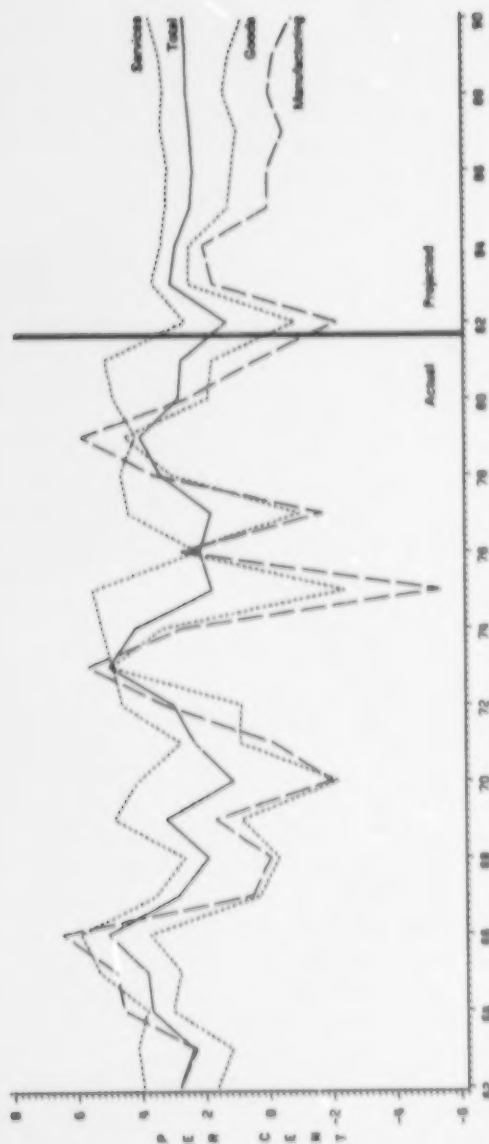


Figure 2.16
Employment growth by industrial aggregate: Canada



utilities show considerable growth, as do nonmetallic minerals, chemicals and machinery. Forestry also expands with a recovery in construction both in Canada and abroad. Given the assumption of a world recovery, the projected growth for mining is probably too low. Growth in the services is quite broad based; the large increase for communication is partly an extension of its past growth trend.

The pattern of projected growth in employment largely follows that of output, allowing for greater productivity growth in the goods-producing sector. In particular, gradually improved employment prospects are assumed to draw workers from the agriculture sector, much as in the 1962-73 period (in fact, the productivity growth of about 4 per cent per year projected for this sector may be excessive). Note that productivity in mining during 1974-80 showed a strong negative trend, reflecting a changing composition of output, greater difficulty of extraction, and increased safety regulations. This trend is assumed to continue but to slow down in the 1980s. A similar negative productivity growth is shown for construction; it is an extrapolation of the trend of the later 1970s and may be a trifle oversevere. On the other hand, the 1974-80 trend of a major reduction in productivity in the mineral fuels sector, caused by the increasing input needed to extract an unchanged real output from petroleum and gas, should perhaps have been projected more severely for the 1980s.

Figures 2.17 and 2.18 plot these industries' productivity in relation to total or manufacturing productivity. The large changes, past and projected, in relative productivities show clearly.

Within the manufacturing sector, it is interesting that motor vehicles have an anomalous result - its growth rates for output and employment in the 1980s are about equal, suggesting little productivity increase. Partly, this result stems from using 1980, with its relatively low output levels, as the base year, but it may also indicate that our productivity projections are too pessimistic here. Current heavy investments by the auto industry for re-tooling could bring considerable productivity improvements. Of course, if the productivity improvements are not matched by output gains greater than those projected for the industry, the result would be less job creation.

Within services, productivity growth remains relatively strong in transport and communication; the bulk of job creation is, therefore, in trade, finance, and 'other' services.

Figure 2.17
Labour productivity: mineral fuels, manufacturing, and mining
(ratio to average of all industries)

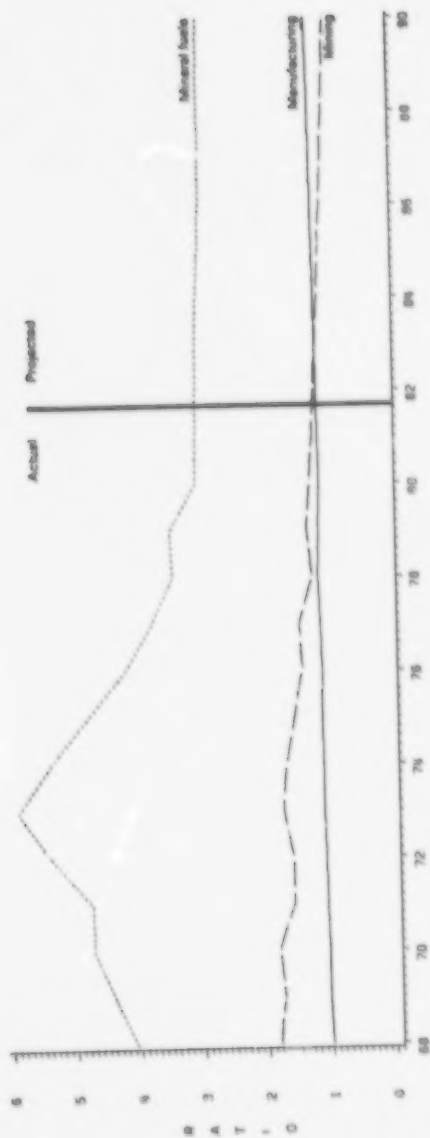


Figure 2.18
Labour productivity: construction, manufacturing, and goods-
producing industries (ratio to average of all industries)



CONCLUSION

Since the following chapters, including the projections for the Ontario economy, are heavily dependent on the national base case, several key trends are worth reiterating. Real GNP growth during the decade is projected to average slightly less than 4 per cent per year - a greater rate than that achieved during the latter half of the 1970s but smaller than those recorded in the 1960s and early 1970s. Inflation declines very gradually to approximately 7.5 per cent per year in 1990. Interest rates follow the inflation rate down. The Canadian dollar is projected to appreciate gradually, partly because the country comes closer to self-sufficiency in energy products. The growth of the energy sector is also expected to improve both the balance of trade and the consolidated government balance. Employment growth is projected to return to rates that are more reasonable by historical standards, and the unemployment rate falls to approximately 5.7 per cent by 1990. The service sectors lead output growth throughout most of the decade, with the major portion of employment creation occurring there.

Table 2.19
Energy production, demand, and price

PRODUCTION DEMAND											
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
PETROLEUM PRODUCTION											
CONVENTIONAL CRUDE (1000)	470	447	413	380	323	287	271	247	224	204	204
CONVENTIONAL CRUDE (MBBL)	8	8	7	50	70	82	95	106	117	124	124
SYNTHETIC	33	33	30	30	30	30	30	30	30	30	30
TERTIARY	-	-	-	-	-	-	-	-	-	-	-
FRONTIER-ALBERTA	-	-	-	-	-	-	21	43	78	16	16
TOTAL PETROLEUM PRODUCTION	533	510	542	529	474	498	476	427	403	364	364
DOMESTIC DEMAND FOR PETROLEUM	604	650	680	680	649	638	634	633	636	638	638
TOTAL NATURAL GAS PRODUCTION	2480	2830	2020	2210	3250	2280	2330	2270	2410	2480	2480
DOMESTIC DEMAND FOR NATURAL GAS	1850	1880	1920	1940	2000	2040	2080	2120	2180	2180	2180
DOMESTIC PRICES											
WELLHEAD PRICE, CONVENTIONAL CRUDE (1000)	18.90	24.83	31.75	38.08	43.11	48.37	54.13	60.40	67.43	75.48	75.48
ENERGY AGREEMENT BASE FOR WELLHEAD PRICE	18.90	24.83	31.75	38.08	43.11	48.37	54.13	60.40	67.43	75.48	75.48
REFINERS' ACQUISITION PRICE (1000) (PRICE X	20.34	32.34	38.13	43.84	50.08	56.17	64.20	73.48	81.82	91.16	91.16
NEW OIL REFERENCE PRICE	40.00	47.37	55.08	67.83	64.53	75.78	-	-	-	-	-
OIL IMPORT PRICE	40.00	43.95	47.23	51.13	57.48	64.49	72.18	80.64	90.17	100.60	100.60
PRICE FOR NEW CONVENTIONAL CRUDE	0.0	43.95	47.23	51.13	57.48	64.49	72.17	80.64	90.17	100.60	100.60
PRICE FOR TERTIARY PRODUCTION	30.00	43.95	47.23	51.13	57.48	64.49	72.17	80.64	90.17	100.60	100.60
PRICE FOR FRONTIER-ALBERTA PRODUCTION	43.00	43.95	47.23	51.13	57.48	64.49	72.17	80.64	90.17	100.60	100.60
PRICE FOR SYNTHETIC-OIL PRODUCTION	43.00	43.95	47.23	51.13	57.48	64.49	72.17	80.64	90.17	100.60	100.60
NETBACK ON NATURAL GAS, DOMESTIC SALES	1.84	2.15	2.64	3.10	3.65	4.19	4.65	5.16	5.68	6.18	6.18
NETBACK ON NATURAL GAS, EXPORT SALES	4.87	5.38	5.81	6.31	6.86	7.37	7.83	8.31	8.76	9.18	9.18
WEIGHTED NETBACK PRICE - NATURAL GAS	2.78	3.24	3.70	4.20	4.73	5.27	5.73	6.18	6.63	7.05	7.05
TORONTO CITYGATE PRICE, NATURAL GAS	3.07	3.63	4.14	4.62	5.17	5.62	6.07	6.52	6.97	7.37	7.37

PRODUCTION/DEMAND
(YEAR OVER YEAR PERCENTAGE CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
PETROLEUM PRODUCTION										
CONVENTIONAL CRUDE (OIL)	-2.07	-6.07	-7.14	-6.09	-16.87	-6.45	-6.70	-5.02	-6.31	-9.66
CONVENTIONAL CRUDE (HEAVY)	-	870.00	64.21	26.71	17.71	17.09	16.16	11.69	10.49	7.87
SYNTHETIC	-	-	45.45	-	-	-	-	75.00	0.0	0.0
TERTIARY	-	-	-	-	-	-	-	100.00	200.00	44.89
FRONTIER-HIBERNIA	-	-	-	-	-	-	-	100.00	20.00	0.0
TOTAL PETROLEUM PRODUCTION	-5.51	-1.37	2.16	-2.25	-10.20	-3.27	4.25	16.43	1.07	-1.79
DOMESTIC DEMAND FOR PETROLEUM	-4.34	-0.69	1.52	0.00	-1.73	-1.50	-0.82	-0.10	0.51	0.25
TOTAL NATURAL-GAS PRODUCTION	1.87	6.79	6.71	6.29	1.25	1.23	1.22	1.20	1.19	1.47
DOMESTIC DEMAND FOR NATURAL GAS	2.21	1.62	2.13	2.08	2.04	2.00	1.94	1.82	1.89	2.31

DOMESTIC PRICES
(YEAR OVER YEAR PERCENTAGE CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
WELLHEAD PRICE, CONVENTIONAL CRUDE (OIL)	21.66	29.00	28.03	19.64	13.30	12.21	11.91	11.73	11.82	11.63
ENERGY ADJUSTED BASE FOR WELLHEAD PRICE	21.66	29.00	28.03	25.20	20.13	16.75	14.25	12.58	11.15	10.03
REFINERS' ACQUISITION PRICE (BLENDED PRICE)	49.80	28.44	17.16	15.32	13.93	-89.50	13.08	12.91	12.88	12.84
NEW OIL REFERENCE PRICE	40.00	13.28	16.75	12.20	10.84	10.58	-	-	-	-
OIL IMPORT PRICE	14.53	4.65	7.45	8.26	12.42	12.21	11.91	11.73	11.82	11.62
PRICE FOR NEW CONVENTIONAL CRUDE	-	-	7.45	8.26	12.42	12.21	11.90	11.73	11.82	11.62
PRICE FOR TERTIARY PRODUCTION	-	-	7.45	8.26	12.42	12.21	11.90	11.73	11.82	11.62
PRICE FOR FRONTIER-HIBERNIA PRODUCTION	-	4.65	7.45	8.26	12.42	12.21	11.90	11.73	11.82	11.62
PRICE FOR SYNTHETIC-OIL PRODUCTION	-	4.65	7.45	8.26	12.42	12.21	11.90	11.73	11.82	11.62
NETBACK ON NATURAL GAS, DOMESTIC SALES	9.19	16.86	22.51	19.51	15.89	13.68	12.03	10.74	9.70	8.84
NETBACK ON NATURAL GAS, EXPORT SALES	1.20	10.57	7.80	6.87	12.40	20.25	18.43	18.81	18.52	17.58
NETBACK ON NATURAL GAS, NATURAL GAS	4.81	17.51	17.13	14.55	13.96	16.85	15.10	14.84	15.31	12.98
NETBACK ON NATURAL GAS, NATURAL GAS	25.85	19.15	13.27	16.55	11.40	10.23	8.26	8.45	7.63	6.73

NOTE: Production and demand in millions of barrels or billions of cubic feet; prices in current Canadian dollars per barrel or per thousand cubic feet.

Table 2.20

Energy: trade, revenues, and subsidies

EXTERNAL TRADE

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
EXCHANGE RATE (Cdn\$/US\$)	1.20	1.19	1.18	1.17	1.17	1.16	1.16	1.15	1.15	1.15
CRUDE-OIL IMPORT PRICE (US\$/BBL.)	35.03	36.78	40.09	43.70	49.21	55.26	62.22	69.88	78.41	87.50
CRUDE-OIL IMPORT PRICE (Cdn\$/BBL.)	42.00	43.95	47.23	51.13	57.48	64.48	72.18	80.64	90.17	100.89
OIL IMPORTS (EX SWAPS) (MILL. BBL.)	151	155	154	168	174	180	195	206	214	225
OIL IMPORTS (CON. \$MILL.)	9027	8341	8942	10382	12028	13879	13745	8971	8781	12084
NATURAL-GAS EXPORTS (BILL. CU. FT.)	800	950	1100	1250	1250	1250	1250	1250	1250	1250
OIL EXPORTS (EX SWAPS) (MILL. BBL.)	34	35	36	37	0	0	0	0	0	0
OIL & GAS EXPORTS (CON. \$MILL.)	7589	8614	10228	12126	11402	13480	15874	18609	21776	25389

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
PETROLEUM COMPENSATION CHARGE	3687	4401	4208	3906	4528	5369	6280	7599	9031	10642
CANADIAN OWNERSHIP CHARGE	699	1020	0	0	0	0	0	0	0	0
PETROLEUM EXPORT TAX	422	373	319	284	0	0	0	0	0	0
TAX ON NAT'L GAS & GAS LIQUIDS	904	1128	1440	1470	1500	1520	1860	1980	1620	1858
PETROLEUM & NAT'L GAS REVENUE TAX	2207	3248	4738	5592	5722	6097	6038	6501	6602	6700
(INCLUDES BOX TAX ON NEW WELLHEAD - NEP)										
SUBSIDIES ON PETROLEUM IMPORTS	3231	2798	2234	2070	2363	2744	2824	1298	1423	1888
TOTAL IMPORT & PROD'N SUBSIDIES	4498	4412	4196	3892	4515	5351	6359	7586	9018	10656
TOTAL PROVINCIAL ROYALTIES	6526	8284	10318	12107	12695	14410	17147	20708	23872	26890
GROSS CORP. REVENUES (PRE-TAX)	14197	17608	22383	26376	28447	32069	37612	48170	54893	61518

FEDERAL REVENUES & SUBSIDIES
(MILLIONS OF DOLLARS)

EXTERNAL TRADE
(YEAR-OVER-YEAR PERCENTAGE CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
EXCHANGE RATE (CND/\$US)	-0.41	-0.33	-1.42	-0.68	-0.17	-0.85	-0.43	-0.52	-0.26	-0.43
CRUDE-OIL IMPORT PRICE (\$US\$/BBL.)	15.00	5.00	9.00	9.00	12.61	12.50	12.26	12.31	12.31	12.16
CRUDE-OIL IMPORT PRICE (CND\$/BBL.)	14.53	4.65	8.26	8.26	12.42	12.21	11.91	11.72	11.82	11.82
OIL IMPORTS (EX SWAPS) (MILL. BBL.)	-5.55	2.42	-0.28	9.01	3.67	3.20	-13.73	-50.95	-3.50	15.61
OIL IMPORTS (CND. \$MILL)	9.44	3.91	7.20	16.22	15.83	21.72	-0.96	-34.72	9.13	23.43
NATURAL-GAS EXPORTS (BILL. CU. FT.)	1.10	18.75	15.79	13.64	0.0	0.0	0.0	0.0	0.0	0.0
OIL EXPORTS (EX SWAPS) (MILL. BBL.)	-4.09	3.24	3.29	3.18	-100.00	0.0	0.0	0.0	0.0	0.0
OIL & GAS EXPORTS (CND. \$MILL)	9.41	13.50	18.74	18.56	-5.97	18.31	17.67	17.21	17.04	16.60

FEDERAL REVENUES & SUBSIDIES
(YEAR-OVER-YEAR PERCENTAGE CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
PETROLEUM COMPENSATION CHARGE	-	19.36	-4.36	-7.21	15.96	16.54	16.82	19.11	16.95	17.84
CANADIAN OWNERSHIP CHARGE	0.0	47.26	-100.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PETROLEUM EXCISE TAX	-43.87	-11.62	-14.41	-9.55	-100.00	0.0	0.0	0.0	0.0	0.0
TAX ON NAT'L GAS & GAS LIQUIDS	-	24.81	27.66	2.08	2.04	2.00	1.96	1.92	1.89	2.31
PETROLEUM & NAT'L GAS REVENUE TAX	-	51.70	41.54	16.02	2.31	6.56	-0.96	7.66	1.56	1.48
(INCLUDES 50% TAX ON NEW WELLHEAD - NEP)										
SUBSIDIES ON PETROLEUM IMPORTS	9.63	-13.28	-20.17	-7.23	14.14	16.14	-4.26	-49.11	7.31	31.79
TOTAL IMPORT & PROD'N SUBSIDIES	20.27	-1.91	-4.89	-7.25	16.01	19.51	18.84	19.29	18.88	18.16
TOTAL PROVINCIAL ROYALTIES	4.26	27.06	24.41	17.34	4.86	12.51	18.99	20.77	15.38	12.64
GROSS CORP. REVENUES (PRE-TAX)	21.17	24.03	27.12	17.84	7.85	12.73	17.28	28.07	14.14	11.89

NOTE: Revenues and subsidies in millions of current dollars.

Table 2.21

Energy: balance of payments and refiners' acquisition price

EXTERNAL TRADE									
	1977	1978	1979	1980	1981	1982	1983	1984	
EXCHANGE RATE (DM/\$US)	1.06	1.14	1.17	1.17	1.20	1.19	1.18	1.17	
	(7.89)	(7.24)	(2.70)	(-0.17)	(2.54)	(-0.33)	(-1.42)	(-0.68)	
(\$71 MILLION)									
EXPORTS OF OIL & GAS	630	931	983	450	435	438	487	552	
	(-21.06)	(-15.66)	(9.72)	(-22.78)	(-3.30)	(0.71)	(11.22)	(13.31)	
IMPORTS OF OIL	497	479	481	423	431	445	467	511	
	(-14.57)	(-3.50)	(-3.77)	(-8.36)	(1.90)	(3.22)	(5.00)	(9.39)	
(\$ MILLIONS)									
EXPORTS OF OIL & GAS	3788	3768	9330	6868	7589	8615	10225	12128	
	(-2.93)	(-0.54)	(41.46)	(28.86)	(10.50)	(13.53)	(18.88)	(18.61)	
IMPORTS OF OIL	3216	3483	4536	6978	8026	8343	8939	10384	
	(-1.21)	(8.55)	(28.67)	(53.84)	(15.02)	(3.95)	(7.14)	(16.28)	
(1971=100, (DM))									
DEFLATOR: OIL & GAS EXPORTS (\$US)	965	623	785	1322	1471	1645	1782	1877	
	(13.72)	(10.01)	(26.08)	(68.43)	(11.20)	(11.88)	(8.30)	(9.35)	
DEFLATOR: OIL & GAS EXPORTS (\$DM)	603	710	920	1546	1763	1967	2099	2197	
	(22.75)	(17.92)	(28.44)	(68.17)	(13.99)	(11.56)	(6.71)	(4.67)	
DEFLATOR: OIL IMPORTS (\$US)	608	637	835	1416	1951	1570	1626	1739	
	(6.85)	(4.81)	(31.05)	(69.52)	(9.53)	(1.22)	(3.56)	(6.97)	
DEFLATOR: OIL IMPORTS (\$DM)	647	727	978	1656	1938	1976	1914	2035	
	(15.30)	(12.38)	(34.53)	(69.28)	(12.26)	(0.94)	(2.04)	(6.28)	
DOMESTIC PRICES									
	1977	1978	1979	1980	1981	1982	1983	1984	
REFINERS' ACQUISITION PRICE (\$/BBL)	10.45	12.25	13.25	16.53	25.34	32.54	28.13	43.35	
	(17.74)	(17.20)	(8.16)	(24.74)	(52.31)	(28.44)	(17.16)	(15.32)	
CPI - GASOLINE (1971=1.0)	1.73	1.83	2.02	2.40	3.10	3.65	4.18	4.78	
	(8.63)	(5.56)	(10.20)	(19.01)	(28.17)	(17.78)	(13.88)	(14.93)	

EXTERNAL TRADE

EXCHANGE RATE (CDS\$/US\$)

1985	1986	1987	1988	1989	1990
1.17	1.16	1.16	1.15	1.15	1.15
(-0.17)	(-0.26)	(-0.43)	(-0.52)	(-0.35)	(-0.43)

(\$71 MILLION)

EXPORTS OF OIL & GAS

448	446	453	460	487	476
(-18.90)	(-0.31)	(1.43)	(1.55)	(1.53)	(1.79)
526	541	479	280	273	302
(3.04)	(2.75)	(-11.50)	(-41.59)	(-2.41)	(10.58)

IMPORTS OF OIL

(\$ MILLIONS)

EXPORTS OF OIL & GAS

11401	13493	15876	18603	21772	25387
(-5.99)	(18.35)	(17.67)	(17.18)	(17.03)	(16.50)
12036	13881	13748	8970	9789	12083
(15.80)	(15.33)	(-0.86)	(-34.75)	(9.12)	(23.44)

IMPORTS OF OIL

(1971=100. (CDM))

DEFLATOR: OIL & GAS EXPORTS (\$/US)

2180	2594	3022	3506	4052	4652
(16.13)	(18.99)	(18.51)	(18.01)	(15.57)	(15.04)
2546	3023	3507	4048	4650	5338
(15.91)	(18.72)	(18.01)	(15.38)	(15.15)	(14.55)

DEFLATOR: OIL & GAS IMPORTS (\$/CDM)

1998	3203	3476	2781	3120	3498
(12.60)	(12.50)	(12.40)	(12.31)	(12.21)	(12.10)
2287	2567	2872	3208	3587	4005
(12.38)	(12.24)	(11.91)	(11.70)	(11.81)	(11.63)

DEFLATOR: OIL IMPORTS (\$/US)

1998	3203	3476	2781	3120	3498
(12.60)	(12.50)	(12.40)	(12.31)	(12.21)	(12.10)
2287	2567	2872	3208	3587	4005
(12.38)	(12.24)	(11.91)	(11.70)	(11.81)	(11.63)

DEFLATOR: OIL IMPORTS (\$/CDM)

1998	3203	3476	2781	3120	3498
(12.60)	(12.50)	(12.40)	(12.31)	(12.21)	(12.10)
2287	2567	2872	3208	3587	4005
(12.38)	(12.24)	(11.91)	(11.70)	(11.81)	(11.63)

DOMESTIC PRICES

REFINERS' ACQUISITION PRICE (\$/BBL)

50.08	56.77	64.20	72.48	81.82	92.16
(13.93)	(13.34)	(13.08)	(12.91)	(12.48)	(12.48)
5.40	6.08	6.84	7.73	8.71	9.79
(13.02)	(11.96)	(13.16)	(12.90)	(12.78)	(12.32)

CPI - GASOLINE (1971=1.0)

50.08	56.77	64.20	72.48	81.82	92.16
(13.93)	(13.34)	(13.08)	(12.91)	(12.48)	(12.48)
5.40	6.08	6.84	7.73	8.71	9.79
(13.02)	(11.96)	(13.16)	(12.90)	(12.78)	(12.32)

NOTE: percentage changes in parentheses

Table 2.22

The national economy: summary by year

	1977	1978	1979	1980	1981	1982	1983	1984
GROSS NATIONAL PRODUCT	208868	230353	261981	289859	327120	368023	420844	473395
IMPLICIT PRICE DEFATOR FOR GNP (1971=1.0)	1.71	1.82	2.01	2.23	2.45	2.74	3.01	3.26
REAL GROSS NATIONAL PRODUCT	121762	126281	130118	130160	133529	134304	129876	145094
EXPENDITURE ON PERSONAL CONSUMPTION	72416	78550	81138	81895	82358	84240	86904	89640
EXPENDITURE BY GOVERNMENTS	26273	28564	26474	26342	26839	27462	28044	28522
INVESTMENT EXPENDITURE	2314	23481	25168	26277	27555	27778	28660	31451
RESIDENTIAL CONSTRUCTION	6152	5847	5513	4828	4977	4804	5101	5347
NON-RESIDENTIAL AND MACH. & EQUIP.	17162	17534	19655	21351	22578	22974	24560	26103
EXPORTS	28046	30929	31766	32087	32369	32771	34009	35082
IMPORTS	32844	34345	36420	35615	37058	38024	39334	40182
CAPACITY UTILIZATION RATE	0.81	0.83	0.84	0.80	0.79	0.77	0.77	0.76
UNEMPLOYMENT RATE	8.12	8.38	7.47	7.53	7.57	8.41	8.04	7.12
EMPLOYMENT (THOUSANDS)	9649	9971	10368	10656	10840	11077	11410	11723
UNEMPLOYED DEFINED MONEY SUPPLY, M1	19883	21717	23138	24661	25435	26994	28614	30331
FINANCE CO. 90-DAY PAPER RATE	7.31	9.09	12.16	13.85	18.16	17.84	15.11	13.21
INDUSTRIAL BOND RATE	9.38	10.04	10.39	13.35	16.15	16.47	14.17	12.91
CONSUMER PRICE INDEX (1971=1.00)	1.61	1.75	1.91	2.11	2.37	2.66	2.92	3.17
AVERAGE ANNUAL WAGES AND SALARIES (\$ '000)	11.008	11.522	12.449	13.518	15.094	16.703	18.270	19.835
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	11.142	11.158	11.074	10.798	10.792	10.723	10.823	10.961
EXCHANGE RATE (US \$/CDM \$)	0.940	0.877	0.854	0.855	0.834	0.837	0.849	0.855
TERMS OF TRADE (PX/PM) (1971=1.0)	1.07	1.03	1.07	1.07	1.06	1.07	1.10	1.11
BALANCE ON CURRENT ACCOUNT	-4201	-4935	-4894	-1904	-6445	-8844	-5946	-4034
CHANGE IN FOREIGN RESERVES	-1421	-3299	1908	-1281	-500	-500	0	0
CONSOLIDATED GOVERNMENT BALANCE	-5005	-6954	-4691	-5983	-1798	-3984	-2132	-2333
PERSONAL SAVINGS RATE (%)	9.66	10.80	10.32	10.11	9.15	8.44	9.05	9.23
NOMINAL AFTER-TAX CORPORATE PROFITS	13672	17373	24857	25564	24942	26836	31465	36543
REAL PERSONAL DISPOSABLE INCOME	87236	80828	82810	83818	84816	84693	98152	101349

GROSS NATIONAL PRODUCT
IMPLICIT PRICE DEFATOR FOR GNP (1871=1.0)

REAL GROSS NATIONAL PRODUCT

EXPENDITURE ON PERSONAL CONSUMPTION

EXPENDITURE BY GOVERNMENT

INVESTMENT EXPENDITURE

RESIDENTIAL CONSTRUCTION

NON-RESIDENTIAL AND MACH. & EQUIP.

EXPORTS

IMPORTS

CAPACITY UTILIZATION RATE

UNEMPLOYMENT RATE

EMPLOYMENT (THOUSANDS)

NARROWLY DEFINED MONEY SUPPLY, M1

FINANCE CO. 90-DAY PAPER RATE

INDUSTRIAL BOND RATE

CONSUMER PRICE INDEX (1871=1.00)

AVERAGE ANNUAL WAGES AND SALARIES (\$ '000)

GNP AT FACTOR COST PER EMPLOYEE (1871 '000)

EXCHANGE RATE (US \$/COM \$)

TERMS OF TRADE (PX/PW) (1871=1.0)

BALANCE ON CURRENT ACCOUNT

CHANGE IN FOREIGN RESERVES

CONSOLIDATED GOVERNMENT BALANCE

PERSONAL SAVINGS RATE (%)

NOMINAL AFTER-TAX CORPORATE PROFITS

REAL PERSONAL DISPOSABLE INCOME

NOTE: Nominal values in millions of current dollars.
real values in millions of 1871 dollars.

	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT	531482	594974	662924	729846	822671	915982
IMPLICIT PRICE DEFATOR FOR GNP (1871=1.0)	3.55	3.85	4.15	4.46	4.80	5.16
REAL GROSS NATIONAL PRODUCT	149674	154572	159810	165743	171191	177413
EXPENDITURE ON PERSONAL CONSUMPTION	92202	95252	98518	101829	105208	108987
EXPENDITURE BY GOVERNMENT	28997	30396	30396	31303	32069	33161
INVESTMENT EXPENDITURE	32395	35199	37533	39925	42055	44342
RESIDENTIAL CONSTRUCTION	5573	5488	5515	5654	5757	5846
NON-RESIDENTIAL AND MACH. & EQUIP.	27822	29710	32018	34271	36529	38509
EXPORTS	36317	37760	38815	39715	40535	41371
IMPORTS	41869	44012	46176	47875	49525	51301
CAPACITY UTILIZATION RATE	0.78	0.80	0.82	0.83	0.84	0.85
UNEMPLOYMENT RATE	6.87	6.76	6.26	6.09	5.88	5.70
EMPLOYMENT (THOUSANDS)	12008	12282	12570	12879	13199	13535
NARROWLY DEFINED MONEY SUPPLY, M1	31847	33439	35111	36867	38710	40646
FINANCE CO. 90-DAY PAPER RATE	12.82	12.24	11.70	11.35	11.37	10.83
INDUSTRIAL BOND RATE	12.80	12.60	12.43	12.15	11.94	11.54
CONSUMER PRICE INDEX (1871=1.00)	3.46	3.76	4.07	4.37	4.72	5.09
AVERAGE ANNUAL WAGES AND SALARIES (\$ '000)	21.501	23.369	25.347	27.280	29.264	31.314
GNP AT FACTOR COST PER EMPLOYEE (1871 '000)	11.068	11.215	11.346	11.485	11.576	11.692
EXCHANGE RATE (US \$/COM \$)	0.856	0.858	0.862	0.867	0.870	0.873
TERMS OF TRADE (PX/PW) (1871=1.0)	1.11	1.13	1.15	1.16	1.20	1.22
BALANCE ON CURRENT ACCOUNT	-5546	-5665	-6276	-2133	-4197	-4652
CHANGE IN FOREIGN RESERVES	0	0	0	0	0	0
CONSOLIDATED GOVERNMENT BALANCE	236	3099	5178	5416	6497	7128
PERSONAL SAVINGS RATE (%)	8.62	8.31	8.47	9.31	9.05	8.38
NOMINAL AFTER-TAX CORPORATE PROFITS	45627	53771	61634	71007	80433	90731
REAL PERSONAL DISPOSABLE INCOME	103469	106435	110172	114805	118141	122741

Table 2.22 continued

PERCENTAGE CHANGE

	1977	1978	1979	1980	1981	1982	1983	1984
GROSS NATIONAL PRODUCT	9.31	10.20	13.72	10.63	12.85	12.50	14.30	13.02
IMPLICIT PRICE DEFLATOR FOR GNP	7.05	6.34	10.36	10.63	10.00	11.82	10.00	8.71
REAL GROSS NATIONAL PRODUCT	2.11	3.71	3.04	0.03	2.59	0.58	3.93	3.95
EXPENDITURE ON PERSONAL CONSUMPTION	2.88	2.76	1.99	1.01	1.60	1.17	3.16	3.15
EXPENDITURE BY GOVERNMENTS	2.78	1.11	-0.34	-0.01	1.89	2.32	2.12	1.70
INVESTMENT EXPENDITURE	-0.95	0.72	7.18	4.41	4.02	0.81	5.78	6.04
RESIDENTIAL CONSTRUCTION	-6.28	-3.33	-7.30	-10.65	1.04	-3.48	6.78	6.83
NON-RESIDENTIAL AND MACH. & EQUIP.	1.11	2.17	12.10	8.63	5.75	1.75	6.90	6.78
EXPORTS	6.84	10.28	2.71	1.01	0.88	1.24	3.78	3.15
IMPORTS	2.11	4.57	6.04	-2.21	4.05	2.61	3.44	2.16
CAPACITY UTILIZATION RATE *	-0.02	0.02	0.01	-0.05	-0.01	-0.01	-0.00	0.01
UNEMPLOYMENT RATE *	0.99	0.26	-0.81	0.06	0.04	0.84	-0.37	-0.92
EMPLOYMENT	1.75	3.34	3.99	2.77	2.67	1.25	3.01	2.83
NARROWLY DEFINED MONEY SUPPLY, M1	9.28	9.22	6.64	6.49	3.26	6.00	6.00	6.00
FINANCE CD. 90-DAY PAPER RATE *	-1.89	1.78	3.08	1.69	4.31	-0.32	-2.74	-1.50
INDUSTRIAL BOND RATE *	-0.74	0.35	0.95	2.36	2.80	0.32	-2.30	-1.26
CONSUMER PRICE INDEX	8.01	8.92	9.13	10.19	12.49	12.41	9.50	8.76
AVERAGE ANNUAL WAGES AND SALARIES	7.49	4.67	8.04	8.59	11.66	10.86	9.38	8.56
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	1.04	0.15	-0.75	-2.49	-0.06	-0.64	0.94	1.27
EXCHANGE RATE (US \$/CDN \$)	-7.31	-6.75	-2.63	0.17	-2.48	0.33	1.44	0.68
TERMS OF TRADE (PX/PW)	-3.98	-4.14	3.69	0.33	-1.09	0.77	2.91	0.78
BALANCE ON CURRENT ACCOUNT (\$ MILL) *	-459	-634	41	2950	-4541	-2398	2857	1912
CHANGE IN FOREIGN RESERVES (\$ MILL) *	-1943	-1878	5207	-3189	781	0	500	0
CONSOLIDATED GOVERNMENT BALANCE (\$ MILL) *	-1783	-1949	2263	-1292	4184	-2185	1852	-200
PERSONAL SAVINGS RATE (%) *	-0.36	1.14	-0.48	-0.21	-0.96	-0.71	0.61	0.18
NOMINAL AFTER-TAX CORPORATE PROFITS	6.22	27.07	43.08	2.84	-2.83	7.59	17.25	16.14
REAL PERSONAL DISPOSABLE INCOME	2.41	4.23	2.07	1.14	1.01	-0.13	3.65	3.26

PERCENTAGE CHANGE

	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT	11.80	11.95	11.42	11.60	11.19	11.34
IMPLICIT PRICE DEFLATOR FOR GNP	8.38	8.40	7.77	7.62	7.65	7.44
REAL GROSS NATIONAL PRODUCT	3.16	3.27	3.39	3.71	3.29	3.63
EXPENDITURE ON PERSONAL CONSUMPTION	2.86	3.31	3.43	3.36	3.32	3.59
EXPENDITURE ON GOVERNMENTS	1.66	2.41	2.35	2.98	2.45	3.41
INVESTMENT EXPENDITURE	6.18	5.40	6.63	6.37	5.34	5.40
RESIDENTIAL CONSTRUCTION	4.22	-1.52	0.49	2.51	1.93	1.02
NON-RESIDENTIAL AND MACH. & EQUIP.	6.59	6.79	7.77	7.04	5.91	6.09
EXPORTS	3.52	3.98	2.79	3.49	1.94	2.02
IMPORTS	4.20	5.12	4.92	3.68	3.45	3.59
CAPACITY UTILIZATION RATE *	0.01	0.01	0.01	0.01	0.01	0.01
UNEMPLOYMENT RATE *	-0.25	-0.11	-0.20	-0.17	-0.21	-0.18
EMPLOYMENT	2.34	2.28	2.35	2.46	2.48	2.54
NARROWLY DEFINED MONEY SUPPLY, M1	5.00	5.00	5.00	5.00	5.00	5.00
FINANCE CO. 90-DAY PAPER RATE *	-0.39	-0.58	-0.53	-0.36	0.03	-0.54
INDUSTRIAL BOND RATE *	-0.11	-0.20	-0.17	-0.28	-0.21	-0.41
CONSUMER PRICE INDEX	9.06	8.64	8.36	7.30	7.89	7.89
AVERAGE ANNUAL WAGES AND SALARIES	8.40	8.69	8.47	7.62	7.27	7.00
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	0.98	1.33	1.16	1.23	0.79	1.00
EXCHANGE RATE (US \$/CAN \$)	0.17	0.26	0.43	0.52	0.35	0.44
TERMS OF TRADE (PX/PW)	0.17	1.56	2.17	3.17	0.85	1.80
BALANCE ON CURRENT ACCOUNT (\$ BILL.) *	-1511	-119	-610	4142	-2083	-454
CHANGE IN FOREIGN RESERVES (\$ BILL.) *	0	0	0	0	0	0
CONSOLIDATED GOVERNMENT BALANCE (\$ BILL.) *	2570	2862	2079	238	1081	622
PERSONAL SAVINGS RATE (%) *	-0.60	-0.31	0.16	0.84	-0.26	0.35
NOMINAL AFTER-TAX CORPORATE PROFITS	21.86	17.85	14.62	15.21	12.27	12.80
REAL PERSONAL DISPOSABLE INCOME	2.09	2.87	3.51	4.21	2.91	3.89

NOTE: * indicates changes on levels.

Table 2.23
Major components of GNP

	1977	1978	1979	1980	1981	1982	1983	1984
PERSONAL CONSUMPTION EXPENDITURES, TOTAL	77416	79950	81126	81925	83264	84240	86904	88640
DURABLE GOODS	(2.88)	(2.76)	(1.99)	(1.01)	(1.60)	(1.17)	(3.16)	(3.15)
NON-DURABLE GOODS	(2.76)	(3.79)	(4.39)	(-1.59)	(1.36)	(-1.72)	(7.08)	(4.38)
CURRENT	22392	22797	22880	22762	23108	22980	24025	24358
GROSS CAPITAL FORMATION	(-0.03)	(-1.91)	(-5.59)	(-0.39)	(4.21)	(4.60)	(2.02)	(3.87)
BUSINESS GROSS FIXED CAPITAL FORMATION, TOTAL	22314	23481	25168	26377	27595	27778	28660	31491
RESIDENTIAL CONSTRUCTION	(-0.89)	(0.72)	(7.18)	(4.41)	(4.86)	(0.81)	(6.78)	(6.04)
NON-RESIDENTIAL CONSTRUCTION	(-6.28)	(-2.33)	(-7.30)	(-10.63)	(1.04)	(-2.48)	(6.18)	(4.82)
MACHINERY AND EQUIPMENT	(3.03)	(1.88)	(13.26)	(12.39)	(7.15)	(1.51)	(7.44)	(6.48)
INVENTORY	(-0.38)	(2.40)	(11.17)	(5.57)	(4.53)	(1.97)	(6.43)	(6.10)
VALUE OF PHYSICAL CHANGE IN BUS. INVENTORIES	(-804)	(172)	(1640)	(-2634)	(1812)	(-404)	(215)	(285)
EXPORTS, TOTAL	28046	30829	31765	32087	32389	32771	34009	35092
MERCHANDISE	(6.94)	(10.28)	(2.71)	(1.01)	(0.88)	(1.24)	(2.78)	(2.53)
SERVICES	(8.67)	(10.08)	(1.47)	(-0.36)	(1.48)	(1.03)	(2.52)	(2.77)
IMPORTS, TOTAL	32644	34345	36420	35615	37096	38024	39334	40182
MERCHANDISE	(2.11)	(4.57)	(6.04)	(-2.21)	(4.05)	(2.61)	(3.44)	(2.18)
SERVICES	(2.78)	(4.82)	(7.53)	(-5.61)	(4.94)	(3.22)	(2.66)	(0.56)
STATISTICAL DISCREPANCY	(-903)	(120)	(118)	(-124)	(-389)	(-368)	(-367)	(-388)
GROSS NATIONAL PRODUCT	121762	126281	130115	130160	132529	134304	139976	145084
	(2.11)	(3.71)	(3.04)	(0.03)	(2.98)	(0.96)	(3.83)	(3.89)

	1985	1986	1987	1988	1989	1990
PERSONAL CONSUMPTION EXPENDITURES, TOTAL						
82203	98252	98918	101829	103208	108887	
(2.86)	(3.31)	(3.42)	(3.36)	(3.22)	(3.58)	
DURABLE GOODS						
16288	17128	18123	18950	19617	20429	
(2.48)	(5.12)	(5.82)	(4.57)	(2.52)	(4.18)	
GOVERNMENT CURRENT						
24877	25208	25725	26441	27007	27868	
(1.31)	(2.15)	(2.03)	(2.78)	(2.14)	(3.26)	
GROSS CAPITAL FORMATION						
4320	4489	4671	4862	5062	5273	
(3.74)	(3.91)	(4.04)	(4.08)	(4.11)	(4.18)	
BUSINESS GROSS FIXED CAPITAL FORMATION, TOTAL						
33385	35189	37533	38925	42085	44325	
(6.18)	(5.40)	(6.63)	(5.87)	(5.24)	(5.40)	
RESIDENTIAL CONSTRUCTION						
2723	17523	17481	18251	19787	19915	
(2.23)	(1.52)	(0.49)	(2.51)	(1.83)	(1.02)	
NON-RESIDENTIAL CONSTRUCTION						
13218	14144	15195	15183	17063	18054	
(7.10)	(7.01)	(7.43)	(6.51)	(5.44)	(5.81)	
MACHINERY AND EQUIPMENT						
14805	15567	16823	18088	19234	20455	
(6.12)	(6.98)	(8.07)	(7.52)	(6.34)	(6.38)	
VALUE OF PHYSICAL CHANGE IN BUS. INVENTORIES						
1000	1044	1081	1151	1200	1220	
(5.1)	(4.4)	(4.6)	(6.0)	(5.0)	(3.8)	
EXPORTS, TOTAL						
26317	37780	38815	38781	40552	41371	
(3.92)	(3.98)	(2.78)	(2.48)	(3.54)	(3.58)	
MERCHANDISE						
28402	30823	31329	31102	32354	32820	
(3.68)	(3.51)	(3.80)	(4.33)	(1.33)	(1.06)	
SERVICES						
7915	7157	7487	7679	8208	8551	
(2.82)	(3.22)	(4.80)	(5.24)	(4.41)	(5.77)	
IMPORTS, TOTAL						
41888	44012	46176	47875	48925	51301	
(4.20)	(5.12)	(4.92)	(3.60)	(3.43)	(3.58)	
MERCHANDISE						
28283	29808	31823	32703	33800	35806	
(4.74)	(5.34)	(5.72)	(3.41)	(3.66)	(4.74)	
SERVICES						
13476	14102	14953	15172	15624	15784	
(3.08)	(4.65)	(3.19)	(4.25)	(2.98)	(1.10)	
STATISTICAL DISCREPANCY						
-367	-367	-367	-368	-368	-367	
(0)	(0)	(0)	(-2)	(1)	(1)	
GROSS NATIONAL PRODUCT						
148874	154572	168810	165743	171181	177413	
(3.18)	(3.27)	(3.28)	(3.71)	(3.28)	(3.62)	

NOTE: Levels in millions of 1977 dollars.
percentage of level changes in parentheses

Table 2.24

Implicit price index of major components of GNP (1971=1.0)

	1977	1978	1979	1980	1981	1982	1983	1984
PERSONAL CONSUMPTION EXPENDITURES, TOTAL								
DURABLE GOODS	1.56 (7.45)	1.70 (7.42)	1.86 (8.18)	2.08 (10.51)	2.38 (11.27)	2.95 (11.70)	2.78 (9.01)	3.01 (8.23)
NON-DURABLE GOODS	1.37 (4.86)	1.44 (5.04)	1.56 (5.23)	1.89 (6.23)	1.87 (6.23)	2.01 (12.33)	2.30 (10.41)	2.43 (9.16)
GOVERNMENT CURRENT	1.94 (8.56)	2.09 (8.16)	2.27 (8.46)	2.54 (11.87)	2.84 (11.62)	3.17 (11.78)	3.48 (9.64)	3.77 (8.41)
GRAND TOTAL	1.76 (7.40)	1.89 (7.46)	2.08 (8.74)	2.26 (8.81)	2.36 (4.72)	2.64 (12.25)	2.83 (6.63)	3.01 (6.20)
BUSINESS GROSS FIXED CAPITAL FORMATION, TOTAL								
RESIDENTIAL CONSTRUCTION	1.78 (8.35)	1.82 (8.27)	2.11 (8.92)	2.30 (8.94)	2.52 (9.28)	2.78 (10.62)	3.02 (8.62)	3.25 (7.55)
NON-RESIDENTIAL CONSTRUCTION	2.08 (10.91)	2.28 (9.51)	2.56 (12.08)	2.81 (10.04)	3.08 (9.92)	3.40 (10.10)	3.67 (7.73)	3.97 (8.26)
MACHINERY AND EQUIPMENT	1.76 (7.87)	1.87 (6.35)	2.08 (8.53)	2.21 (7.81)	2.42 (9.22)	2.67 (10.48)	2.90 (8.23)	3.14 (7.17)
GRAND TOTAL	1.89 (7.38)	1.94 (8.64)	2.16 (10.03)	2.31 (11.67)	2.58 (8.34)	2.86 (10.88)	3.14 (8.01)	3.42 (6.78)
EXPORTS, TOTAL								
MERCHANDISE	1.75 (7.75)	2.02 (8.61)	2.43 (18.23)	2.81 (15.81)	3.08 (8.81)	3.47 (12.15)	3.80 (12.42)	4.22 (10.72)
SERVICES	1.89 (7.18)	2.06 (8.00)	2.50 (11.25)	2.83 (17.11)	3.20 (8.18)	3.58 (12.18)	4.08 (12.92)	4.48 (10.85)
IMPORTS, TOTAL								
MERCHANDISE	1.74 (12.28)	1.98 (13.20)	2.27 (14.89)	2.42 (15.57)	2.92 (11.15)	3.25 (11.34)	3.56 (9.20)	3.89 (8.44)
SERVICES	1.82 (10.36)	2.05 (12.68)	2.38 (15.80)	2.82 (18.48)	3.10 (18.18)	3.43 (18.21)	3.76 (18.13)	4.16 (18.13)
GRAND TOTAL	1.97 (17.12)	2.11 (18.38)	2.51 (19.08)	2.81 (19.03)	3.28 (14.43)	3.68 (12.08)	4.08 (8.00)	4.48 (8.00)
GRAND NATIONAL PRODUCT								
TOTAL	1.71 (7.08)	1.82 (6.34)	2.01 (10.38)	2.23 (10.62)	2.49 (10.06)	2.74 (11.82)	3.01 (10.00)	3.28 (8.71)

PERSONAL CONSUMPTION EXPENDITURES, TOTAL

DURABLE GOODS

CONSUMPTION

CURRENT

GROSS FIXED CAPITAL FORMATION

BUSINESS GROSS FIXED CAPITAL FORMATION, TOTAL

RESIDENTIAL CONSTRUCTION

NON-RESIDENTIAL CONSTRUCTION

MACHINERY AND EQUIPMENT

EXPORTS, TOTAL

MERCHANDISE

SERVICES

IMPORTS, TOTAL

MERCHANDISE

SERVICES

GROSS NATIONAL PRODUCT

NOTE: See note to Table 2.21.

	1993	1995	1997	1999	1999	1999
PERSONAL CONSUMPTION EXPENDITURES, TOTAL	3.25	3.52	3.70	4.03	4.34	4.53
DURABLE GOODS	(8.48)	(7.90)	(7.25)	(6.68)	(7.51)	(6.80)
CONSUMPTION	2.79	3.03	3.28	3.50	3.77	4.04
CURRENT	(9.86)	(8.93)	(8.03)	(6.93)	(7.69)	(6.97)
GROSS FIXED CAPITAL FORMATION	4.07	4.39	4.76	5.10	5.48	5.87
BUSINESS GROSS FIXED CAPITAL FORMATION, TOTAL	(7.76)	(7.86)	(8.25)	(8.31)	(7.48)	(7.02)
RESIDENTIAL CONSTRUCTION	3.28	3.62	3.90	4.18	4.49	4.82
NON-RESIDENTIAL CONSTRUCTION	(9.12)	(10.16)	(7.81)	(6.87)	(7.89)	(7.27)
MACHINERY AND EQUIPMENT	3.59	3.84	4.07	4.31	4.64	5.00
EXPORTS, TOTAL	(9.23)	(8.13)	(6.03)	(5.97)	(7.73)	(7.74)
MERCHANDISE	4.39	4.86	5.28	5.72	6.30	7.17
SERVICES	(10.60)	(10.53)	(8.08)	(8.41)	(11.54)	(12.22)
IMPORTS, TOTAL	3.47	3.79	4.03	4.29	4.61	4.94
MERCHANDISE	(10.43)	(9.25)	(6.22)	(6.49)	(7.41)	(7.16)
SERVICES	3.29	3.51	3.70	3.88	4.15	4.44
GROSS NATIONAL PRODUCT	(7.23)	(6.72)	(5.43)	(4.89)	(6.88)	(6.94)
EXPORTS, TOTAL	4.75	5.28	5.81	6.41	7.09	7.75
MERCHANDISE	(10.02)	(11.18)	(10.08)	(10.25)	(10.10)	(9.87)
SERVICES	4.89	5.49	6.05	6.71	7.42	8.20
IMPORTS, TOTAL	(9.84)	(11.29)	(10.28)	(10.77)	(10.53)	(10.50)
MERCHANDISE	3.86	4.29	4.78	5.18	5.63	6.09
SERVICES	(10.69)	(9.85)	(9.55)	(8.32)	(8.72)	(8.04)
EXPORTS, TOTAL	4.28	4.69	5.05	5.38	5.89	6.37
MERCHANDISE	(9.82)	(9.50)	(7.16)	(6.84)	(9.15)	(8.28)
SERVICES	4.54	4.89	5.29	5.54	6.09	6.59
IMPORTS, TOTAL	(9.51)	(9.16)	(6.88)	(6.74)	(8.87)	(7.54)
MERCHANDISE	3.72	4.12	4.52	4.84	5.48	5.89
SERVICES	(10.28)	(10.24)	(9.70)	(10.25)	(9.54)	(9.72)
GROSS NATIONAL PRODUCT	3.55	3.89	4.15	4.48	4.80	5.15
	(8.38)	(8.40)	(7.77)	(7.63)	(7.85)	(7.44)

Table 2.25

The labour market

POPULATION AGED 15 YEARS AND OVER										
LABOUR FORCE										
EMPLOYED										
EMPLOYED IN PRIVATE SECTOR										
GOVERNMENT CIVILIAN EMPLOYMENT										
CANADIAN ARMED FORCES										
1977	1978	1979	1980	1981	1982	1983	1984			
17087	17281	17711	18043	18258	18564	18828	19043			
(103)	(103)	(105)	(105)	(105)	(105)	(105)	(105)			
10500	10683	11250	11553	11827	12084	12400	12632			
(205)	(205)	(205)	(205)	(205)	(205)	(205)	(205)			
8645	8971	10368	10856	10940	11077	11410	11733			
(175)	(175)	(175)	(175)	(175)	(175)	(175)	(175)			
8414	8748	9120	9508	9815	9931	10243	10545			
(217)	(217)	(217)	(217)	(217)	(217)	(217)	(217)			
1239	1223	1248	1148	1128	1145	1157	1188			
(-102)	(-97)	(204)	(-82)	(-120)	(181)	(181)	(181)			
81	81	81	80	80	80	80	80			
(00)	(00)	(-02)	(-02)	(00)	(00)	(00)	(00)			
11008	11022	12448	13818	15084	16703	18270	19825			
(709)	(477)	(804)	(809)	(1166)	(1066)	(938)	(835)			
(1809)	(1809)	(1823)	(1823)	(1823)	(1823)	(1823)	(1823)			
(537)	(537)	(537)	(537)	(537)	(537)	(537)	(537)			
812	828	747	750	757	841	804	712			
8748	8884	9080	9241	9279	9308	9498	9643			
(5309)	(5309)	(5309)	(5309)	(5309)	(5309)	(5309)	(5309)			
1824	1824	1824	1824	1824	1824	1824	1824			
(8048)	(8048)	(8048)	(8048)	(8048)	(8048)	(8048)	(8048)			
4750	4750	4750	4750	4750	4750	4750	4750			
(4750)	(4750)	(4750)	(4750)	(4750)	(4750)	(4750)	(4750)			
8107	8281	8323	8388	8470	8515	8587	8653			
(1000)	(1000)	(1000)	(1000)	(1000)	(1000)	(1000)	(1000)			

AVERAGE ANNUAL WAGE OF PRIVATE EMPLOYEES

AVERAGE ANNUAL WAGE OF ARMED FORCES

UNEMPLOYMENT RATE

LABOUR FORCE PARTICIPATION RATES

FEMALES 15-24 YEARS

FEMALES 25-54 YEARS

FEMALES 55 YEARS AND OVER

MALES 15-24 YEARS

MALES 25-54 YEARS

MALES 55 YEARS AND OVER

OVERALL RATE

POPULATION AGED 15 YEARS AND OVER

LABOUR FORCE

EMPLOYED

EMPLOYED IN PRIVATE SECTOR

GOVERNMENT CIVILIAN EMPLOYMENT

CANADIAN ARMED FORCES

AVERAGE ANNUAL RATE OF PRIVATE EMPLOYMENT

AVERAGE ANNUAL RATE OF ARMED FORCES

UNEMPLOYMENT RATE

LABOUR FORCE PARTICIPATION RATES

FEMALES 15-24 YEARS

FEMALES 25-64 YEARS

FEMALES 65 YEARS AND OVER

MALES 15-24 YEARS

MALES 25-64 YEARS

MALES 65 YEARS AND OVER

OVERALL RATE

	1985	1986	1987	1988	1989	1990
POPULATION AGED 15 YEARS AND OVER	10204	10516	10726	10924	20113	20265
LABOUR FORCE	(1.25) (1.20) (1.09) (1.00) (0.95) (0.95)					
EMPLOYED	12684	13171	13408	13714	14022	14253
EMPLOYED IN PRIVATE SECTOR	(2.08) (2.15) (2.11) (2.27) (2.23) (2.28)					
GOVERNMENT CIVILIAN EMPLOYMENT	12008	12282	12570	12879	13188	13509
CANADIAN ARMED FORCES	(2.34) (2.18) (2.35) (2.48) (2.48) (2.54)					
AVERAGE ANNUAL RATE OF PRIVATE EMPLOYMENT	10788	11090	11316	11551	11809	12211
AVERAGE ANNUAL RATE OF ARMED FORCES	(2.41) (2.27) (2.41) (2.53) (2.55) (2.63)					
UNEMPLOYMENT RATE	12116	12326	12411	12541	12777	13050
LABOUR FORCE PARTICIPATION RATES	(1.41) (1.41) (1.41) (1.41) (1.41) (1.41)					
FEMALES 15-24 YEARS	80	80	80	80	80	80
FEMALES 25-64 YEARS	(0.0) (0.0) (0.0) (0.0) (0.0) (0.0)					
FEMALES 65 YEARS AND OVER	21.50	22.269	25.347	27.280	29.354	31.314
MALES 15-24 YEARS	(8.40) (8.88) (8.47) (7.82) (7.27) (7.25)					
MALES 25-64 YEARS	20.096	21.784	23.486	24.741	25.978	27.140
MALES 65 YEARS AND OVER	(4.90) (5.54) (5.42) (5.75) (5.39) (5.42)					
OVERALL RATE	6.07	6.76	6.25	6.09	5.60	5.70
FEMALES 15-24 YEARS	64.76	65.66	66.52	67.60	68.13	70.80
FEMALES 25-64 YEARS	65.67	67.29	68.82	70.73	72.63	74.64
FEMALES 65 YEARS AND OVER	18.21	18.10	18.16	18.25	18.38	18.55
MALES 15-24 YEARS	75.85	76.53	77.08	78.01	78.84	80.21
MALES 25-64 YEARS	87.21	87.39	87.31	87.64	87.95	88.21
MALES 65 YEARS AND OVER	46.29	46.16	45.91	45.85	45.79	45.78
OVERALL RATE	65.86	67.49	67.88	68.83	69.72	70.60

NOTE: Percent and dollars in thousands, percentage changes in parentheses

Table 2.26
National and personal income

	1977	1978	1979	1980	1981	1982	1983	1984
WAGES SALARIES AND SUPPLEMENTARY LABOUR INCOME	118982 (10.26)	128848 (9.12)	145081 (11.74)	162373 (11.91)	183482 (13.00)	205772 (12.18)	231813 (12.68)	258738 (11.61)
MILITARY PAY AND ALLOWANCES	1931 (5.37)	1934 (0.20)	1548 (0.91)	1663 (7.43)	1844 (10.86)	2030 (10.11)	2196 (8.20)	2304 (8.52)
CORPORATION PROFITS BEFORE TAXES AND BEFORE DIVIDENDS TO NON-RESIDENTS	20928 (4.72)	25614 (22.38)	34684 (36.19)	37172 (6.56)	38045 (2.35)	43147 (13.41)	50926 (18.03)	58531 (14.40)
NET INCOME OF UNINCORPORATED BUSINESS	11844 (1.84)	13229 (10.76)	14486 (9.50)	15407 (6.36)	15192 (-1.38)	10349 (-31.88)	12538 (21.16)	13725 (9.48)
OTHER INCOME	23025 (8.44)	26084 (13.77)	30502 (16.89)	33714 (10.53)	36881 (9.39)	38858 (-2.77)	42586 (18.78)	48094 (-20.68)
INVENTORY VALUATION ADJUSTMENT	-3419 (8.43)	-4577 (10.90)	-6718 (15.70)	-6841 (11.09)	-6487 (11.25)	-7349 (10.13)	-5190 (15.34)	-2068 (13.34)
NET NATIONAL INCOME	161029 (8.43)	178576 (10.90)	205370 (15.70)	228145 (11.09)	253818 (11.25)	279522 (10.13)	322388 (15.34)	365391 (13.34)
INDIRECT TAXES LESS SUBSIDIES	23907 (11.08)	25854 (8.14)	27925 (8.01)	28181 (12.53)	38117 (30.38)	46691 (22.48)	53196 (13.93)	58438 (9.85)
CAPITAL CONSUMPTION ALLOWANCES AND STAT. VALUATION ADJUSTMENTS	23043 (11.11)	25662 (11.37)	28854 (12.44)	32153 (11.51)	34484 (7.21)	40821 (18.34)	44058 (7.93)	50889 (14.82)
STATISTICAL DISCREPANCY	24784 (20.86)	26113 (23.05)	27735 (26.95)	29537 (28.85)	32605 (32.71)	47677 (36.80)	54185 (42.04)	59410 (47.53)
GROSS NATIONAL PRODUCT	208868 (9.34)	230253 (10.28)	261961 (13.72)	289859 (10.55)	327120 (12.85)	368023 (12.50)	420644 (14.30)	475395 (13.02)
PERSONAL INCOME	171303 (10.27)	190067 (10.85)	211394 (11.22)	237272 (12.24)	268861 (13.31)	288467 (11.01)	338767 (13.50)	377572 (11.45)
PERSONAL DISPOSABLE INCOME	138094 (10.03)	154623 (11.87)	172308 (11.44)	192572 (11.76)	216449 (12.40)	241508 (11.98)	272882 (12.38)	304982 (11.76)
PERSONAL SAVING	13367 (5.43)	16702 (24.95)	17806 (6.61)	19459 (8.28)	18825 (1.88)	20389 (2.84)	24783 (8.44)	28186 (9.05)
PERSONAL SAVING RATE (PER CENT)	9.66 (-3.62)	10.80 (11.82)	10.32 (-4.48)	10.11 (-2.01)	9.15 (-9.53)	8.44 (-7.77)	8.23 (7.26)	9.23 (10.38)
PERSONAL DISPOSABLE INCOME IN CONSTANT (1971) DOLLARS	87236 (2.41)	90828 (4.23)	92810 (2.07)	93865 (1.14)	94816 (1.01)	94693 (-0.13)	96182 (3.65)	101382 (3.26)

	1985	1986	1987	1988	1989	1990
WAGES, SALARIES AND SUPPLEMENTARY LABOUR INCOME	286683 (10.78)	317281 (10.68)	351371 (10.75)	387268 (10.22)	425526 (9.88)	466032 (9.52)
MILITARY PAY AND ALLOWANCES	2408 (4.50)	2548 (5.44)	2679 (5.44)	2778 (3.75)	2873 (3.38)	2972 (3.42)
CORPORATION PROFITS BEFORE TAXES AND BEFORE DIVIDENDS TO NON-RESIDENTS	72377 (24.23)	85078 (17.95)	98403 (13.52)	100111 (12.11)	124072 (12.78)	138904 (11.95)
NET INCOME OF UNINCORPORATED BUSINESS	12217 (-10.98)	13078 (7.09)	13745 (5.11)	14337 (19.57)	16695 (60.27)	27627 (50.26)
OTHER INCOME	49028 (1.98)	53866 (9.87)	59942 (11.26)	68588 (14.43)	76632 (12.02)	85261 (17.88)
INVENTORY VALUATION ADJUSTMENT	-4743	-5681	-6936	-7518	-8094	-8783
NET NATIONAL INCOME	405780 (11.06)	453119 (11.66)	503528 (11.12)	561197 (11.48)	621278 (10.71)	689445 (10.97)
INDIRECT TAXES LESS SUBSIDIES	87147 (14.90)	75892 (12.73)	85378 (12.80)	94348 (10.51)	105050 (11.34)	117113 (11.48)
CAPITAL CONSUMPTION ALLOWANCES AND MISC. VALUATION ADJUSTMENTS	57857 (13.77)	65186 (13.25)	73042 (12.05)	83324 (14.08)	95377 (14.48)	108458 (13.71)
STATISTICAL DISCREPANCY	68130	76664	86348	95318	108007	118071
GROSS NATIONAL PRODUCT	531482 (11.80)	594974 (11.95)	662924 (11.42)	738846 (11.80)	822671 (11.18)	915982 (11.34)
PERSONAL INCOME	416803 (10.38)	482280 (10.91)	512441 (10.85)	567183 (10.68)	627025 (10.55)	695187 (10.87)
PERSONAL DISPOSABLE INCOME	337798 (10.76)	374913 (10.99)	416565 (11.11)	463079 (11.17)	512282 (10.63)	568423 (10.96)
PERSONAL SAVING	29231 (3.67)	31261 (6.94)	35369 (13.14)	43162 (22.03)	48399 (7.50)	53469 (15.24)
PERSONAL SAVING RATE (PER CENT)	8.6	5.31	6.47	9.31	9.08	9.38
PERSONAL DISPOSABLE INCOME IN CONSTANT (1971) DOLLARS	103469 (2.08)	106438 (2.87)	110172 (3.51)	114605 (4.21)	118141 (2.81)	122741 (3.89)

NOTE: Levels in millions of current dollars;
percentage changes in parentheses.

Table 2.27
Financial variables

	1977	1978	1979	1980	1981	1982	1983	1984
MILLIONS OF DOLLARS								
NARROWLY DEFINED MONEY SUPPLY	19883	21717	23158	24661	25466	26984	28614	30331
	(9.28)	(9.22)	(6.64)	(6.49)	(3.26)	(6.00)	(6.00)	(6.00)
BROADLY DEFINED MONEY SUPPLY	85343	95465	113995	131200	140890	159005	179020	200252
	(15.08)	(11.86)	(19.41)	(15.09)	(7.39)	(12.86)	(12.59)	(11.86)
RATIO								
VELOCITY OF NARROWLY DEFINED MONEY SUPPLY	10.82	10.62	11.32	11.77	12.85	13.64	14.71	15.68
VELOCITY OF BROADLY DEFINED MONEY SUPPLY	2.48	2.41	2.30	2.21	2.32	2.31	2.35	2.37
PER CENT								
YIELD ON 90-DAY FINANCE COMPANY PAPER	7.31	9.09	12.16	13.85	16.16	17.84	15.11	13.21
YIELD ON 1-3 YEAR GOVERNMENT OF CANADA BONDS	7.39	8.92	10.83	12.60	15.87	15.95	14.01	12.38
YIELD ON 3-5 YEAR GOVERNMENT OF CANADA BONDS	8.73	9.11	10.55	12.42	15.60	15.95	13.22	12.13
YIELD ON 10-YEAR GOVERNMENT OF CANADA BONDS	8.73	9.31	10.33	12.60	15.21	15.30	13.16	12.11
YIELD ON NYN INDUSTRIAL BOND RATE	9.89	10.04	10.89	13.35	16.15	16.47	14.17	12.91
YIELD ON 90-DAY U.S. TREASURY BILLS	9.27	7.19	10.07	11.43	14.60	15.00	13.00	11.40
YIELD ON 90-DAY EURODOLLARS	6.01	8.73	11.97	14.02	17.00	17.00	14.30	12.80
YIELD ON 3-5 YEAR U.S. GOVERNMENT BONDS	6.84	8.30	9.61	10.91	14.00	14.10	12.20	11.90
REAL RATE ON 90-DAY FINANCE COMPANY PAPER	-1.04	0.40	2.38	4.41	8.52	7.38	4.58	2.85
REAL RATE ON 3-5 YEAR GOVT OF CANADA BONDS	-0.81	0.18	1.35	3.27	6.92	5.12	3.50	2.93
REAL INTERNAL AFTER-TAX RATE OF RETURN TO CORPORATE SECTOR FROM NEW INVESTMENT IN NON-RESIDENTIAL STRUCTURES	5.51	5.46	5.90	5.75	4.42	3.46	4.38	4.99

MILLIONS OF DOLLARS

	1985	1986	1987	1988	1989	1990
NARROWLY DEFINED MONEY SUPPLY	31847	32438	35111	36867	38710	40646
	(9.00)	(5.00)	(5.00)	(5.00)	(8.00)	(9.00)
BROADLY DEFINED MONEY SUPPLY	221001	244451	273056	307812	346363	392214
	(10.36)	(10.61)	(11.70)	(12.62)	(12.63)	(13.24)
RATIO						
VELOCITY OF NARROWLY DEFINED MONEY SUPPLY	16.70	17.80	18.89	20.08	21.27	22.59
VELOCITY OF BROADLY DEFINED MONEY SUPPLY	2.40	2.43	2.43	2.41	2.37	2.34
PER CENT						
YIELD ON 90-DAY FINANCE COMPANY PAPER	12.82	12.24	11.70	11.35	11.37	10.83
YIELD ON 1-3 YEAR GOVERNMENT OF CANADA BONDS	12.90	12.46	11.81	11.34	11.34	10.82
YIELD ON 3-5 YEAR GOVERNMENT OF CANADA BONDS	12.40	12.21	11.70	11.27	11.23	10.88
YIELD ON 10 YR AND OVER GOVT OF CANADA BONDS	12.58	12.60	12.45	12.40	11.88	11.88
YIELD ON MW INDUSTRIAL BOND RATE	12.80	12.60	12.43	12.15	11.84	11.54
YIELD ON 90-DAY U.S. TREASURY BILLS	11.40	10.50	9.80	9.80	8.70	9.60
YIELD ON 90-DAY EURO-DOLLARS	12.80	11.80	11.20	11.10	11.00	10.80
YIELD ON 3-5 YEAR U.S. GOVERNMENT BONDS	11.50	11.40	11.20	11.00	10.80	10.70
REAL RATE ON 90-DAY FINANCE COMPANY PAPER	3.88	3.83	3.10	3.57	3.96	3.28
REAL RATE ON 3-5 YEAR GOVT OF CANADA BONDS	3.58	3.81	3.29	3.74	4.08	3.51
REAL INTERNAL-AFTER-TAX RATE OF RETURN TO CORPORATE SECTOR FROM NEW INVESTMENT IN NON-RESIDENTIAL STRUCTURES	5.38	5.70	6.08	6.41	6.43	6.28

NOTE: See note to Table 2.21.

Table 2.28
Sources and disposition of savings

	1977	1978	1979	1980	1981	1982	1983	1984
GROSS DOMESTIC CAPITAL FORMATION								
BUSINESS GROSS FIXED CAPITAL FORMATION	41403	45150	53198	60510	69339	77321	89677	102275
CHANGE IN BUSINESS INVENTORIES	(7.33)	(9.08)	(17.83)	(13.74)	(14.59)	(11.51)	(15.98)	(14.08)
GOVERNMENT GROSS CAPITAL FORMATION	331	303	4105	-1261	1307	1236	2122	4778
	6833	7188	7457	8084	8840	10369	11363	12533
	(7.45)	(5.34)	(3.60)	(8.41)	(9.35)	(17.30)	(9.58)	(10.30)
FINANCING OF CAPITAL FORMATION								
PERSONAL SAVING	13367	16702	17906	19459	19825	20389	24793	28196
	(6.43)	(24.95)	(6.61)	(9.28)	(1.89)	(2.84)	(21.60)	(13.72)
UNDISTRIBUTED CORPORATE PROFITS	8238	10817	16597	18805	17854	19450	22576	25601
	(-0.23)	(17.06)	(11.92)	(1.12)	(-5.06)	(8.99)	(16.01)	(13.41)
PUBLIC SECTOR SURPLUS (+) OR DEFICIT (-)	-5005	-6954	-4891	-5893	-1798	-3984	-2132	-2333
CURRENT ACCOUNT DEFICIT (+) OR SURPLUS (-)	4301	4935	4894	1904	6445	8844	5947	4036
	(1.01)	(11.39)	(12.27)	(10.39)	(1.85)	(19.46)	(7.58)	(15.76)
CAPITAL CONSUMPTION ALLOWANCES (NON-GOV'T)	18866	22152	24870	27550	29381	35162	37619	43780
	(-34.19)	(-45.77)	(-57.18)	(-58.41)	(-64.97)	(-72.69)	(-73.89)	(-70.60)
INVENTORY VALUATION ADJUSTMENT	10198	9976	10002	12439	14278	16408	19190	20648
	(24.84)	(-6.10)	(4.48)	(24.37)	(14.78)	(14.90)	(17.99)	(15.63)
OTHERS								

GOSS DOMESTIC CAPITAL FORMATION

BUSINESS GROSS FIXED CAPITAL FORMATION

CHANGE IN BUSINESS INVENTORIES

GOVERNMENT GROSS CAPITAL FORMATION

FINANCING OF CAPITAL FORMATION

PERSONAL SAVING

UNDISTRIBUTED CORPORATE PROFITS

PUBLIC SECTOR SURPLUS (+) OR DEFICIT (-)

CURRENT ACCOUNT DEFICIT (+) OR SURPLUS (-)

WITH NON-RESIDENTS

CAPITAL CONSUMPTION ALLOWANCES (NON-GOV'T)

INVENTORY VALUATION ADJUSTMENT

OTHERS

	1985	1986	1987	1988	1989	1990
BUSINESS GROSS FIXED CAPITAL FORMATION	118456	134999	152826	172047	195228	221698
(15.82) (13.97) (13.06) (12.72) (13.48) (13.95)						
CHANGE IN BUSINESS INVENTORIES	4915	5174	5457	6016	6684	7422
14186	18240	18215	20225	23740	28405	
(13.18) (14.48) (12.16) (11.04) (12.44) (11.72)						
GOVERNMENT GROSS CAPITAL FORMATION						
FINANCING OF CAPITAL FORMATION						
PERSONAL SAVING	29231	31261	35369	43162	46399	53468
(3.87) (6.84) (13.14) (22.03) (7.50) (15.24)						
UNDISTRIBUTED CORPORATE PROFITS	32000	36801	41313	47242	52703	58010
(25.00) (15.31) (11.96) (14.25) (11.56) (11.97)						
PUBLIC SECTOR SURPLUS (+) OR DEFICIT (-)	236	3089	5178	5416	6497	7128
CURRENT ACCOUNT DEFICIT (+) OR SURPLUS (-)	5846	5666	6276	2134	4197	4652
WITH NON-RESIDENTS						
CAPITAL CONSUMPTION ALLOWANCES (NON-GOV'T)	49877	56610	63381	72582	83449	95223
(14.16) (13.27) (11.98) (14.52) (14.96) (14.11)						
INVENTORY VALUATION ADJUSTMENT	-4743	-5681	-6936	-7519	-8094	-8793
OTHERS	25308	28968	31727	35261	39481	43636
(13.11) (12.38) (11.06) (11.14) (11.87) (11.03)						

NOTES: See note to Table 2.26.
a includes government gross capital formation, profits of government enterprises, capital assistance, net transfers on current account, grain adjustments, and residual error.

Table 2.29
Combined-public-sector surplus or deficit

	1977	1978	1979	1980	1981	1982	1983	1984
FEDERAL	-7303 (-3912)	-10654 (-3351)	-9213 (1441)	-10697 (-1484)	-6770 (3926)	-8195 (-1425)	-6538 (1687)	-6924 (-455)
PROVINCIAL	-724 (809)	1049 (1783)	772 (-277)	1965 (793)	1857 (282)	862 (-874)	1235 (252)	1367 (132)
LOCAL	189 (928)	-137 (-396)	789 (926)	98 (-691)	-192 (-280)	-162 (30)	-153 (9)	-130 (23)
PUBLIC HOSPITALS	635 (337)	339 (-296)	268 (-71)	49 (-219)	-13 (-62)	-13 (0)	-13 (0)	-14 (0)
CANADA & QUEBEC PENSION PLANS	2238 (55)	2449 (211)	2693 (244)	3002 (309)	3321 (319)	3404 (84)	3338 (-85)	3438 (100)
COMBINED PUBLIC SECTOR	-5005 (-1783)	-6954 (-1949)	-4691 (2263)	-5983 (-1282)	-1788 (4184)	-3984 (-2185)	-2132 (1852)	-2333 (-200)

	1985	1986	1987	1988	1989	1990
FEDERAL	-4503 (3491)	-1888 (2516)	-209 (1579)	-356 (-187)	627 (1024)	1439 (811)
PROVINCIAL	1333 (-34)	1420 (87)	1531 (211)	1978 (347)	2076 (99)	1983 (-93)
LOCAL	-117 (13)	-116 (-1)	-78 (38)	-77 (1)	-115 (-38)	-74 (41)
PUBLIC HOSPITALS	-14 (0)	-15 (-1)	-15 (0)	-15 (0)	-16 (0)	-16 (0)
CANADA & QUEBEC PENSION PLANS	2538 (100)	3689 (160)	3850 (152)	3928 (77)	3925 (-3)	7797 (-127)
COMBINED PUBLIC SECTOR	236 (2570)	3089 (2862)	5178 (2079)	5416 (238)	6487 (1081)	7128 (632)

NOTE: + indicates a surplus, - indicates a deficit.
All figures in millions of dollars. Level changes in parentheses.

Table 2.30
Federal government's revenues and expenditures

	1977	1978	1979	1980	1981	1982	1983	1984
REVENUES								
INDIRECT TAXES	9085 (9.63)	9750 (7.32)	10661 (9.34)	12131 (6.32)	19570 (61.32)	24502 (25.20)	27512 (12.28)	30281 (10.10)
DIRECT TAXES - CORP. & GOV'T. BUS. ENT.	5157 (2.20)	5786 (12.20)	6687 (19.03)	8002 (15.73)	9260 (15.73)	11265 (21.65)	13705 (21.66)	15287 (11.62)
DIRECT TAXES & TRANSFERS FROM PERSONS	18055 (0.01)	17722 (-1.84)	20274 (14.40)	23454 (15.68)	27939 (10.12)	30616 (9.58)	36878 (20.45)	41373 (12.19)
DIRECT TAXES ON NONRESIDENTS	534 (0.01)	582 (0.01)	754 (0.01)	995 (0.01)	1048 (0.01)	1068 (0.01)	1218 (0.01)	1378 (0.01)
INVESTMENT INCOME	3124 (0.01)	3879 (0.01)	4199 (0.01)	4718 (0.01)	4754 (0.01)	5221 (0.01)	6333 (0.01)	7394 (0.01)
NET TRANSF FROM (+), TO (-) OTHER GOV'T'S *	-9667 (16.96)	-10875 (9.11)	-11754 (8.08)	-12828 (9.14)	-14575 (13.62)	-16688 (14.50)	-18691 (12.00)	-20560 (10.00)
EXPENDITURES								
CURRENT EXP. ON GOODS & SERVICES	11143 (15.23)	11981 (7.52)	12750 (6.42)	13707 (7.51)	15560 (13.66)	17553 (12.66)	19414 (10.60)	21383 (10.04)
GROSS CAPITAL FORMATION	1163 (0.43)	1206 (3.70)	911 (-24.46)	1014 (11.31)	1295 (27.67)	1575 (21.64)	1787 (13.49)	2016 (12.82)
TRANSFERS TO PERSONS	13089 (13.48)	14647 (11.90)	16574 (0.07)	18574 (13.08)	19274 (16.28)	23062 (19.68)	26785 (16.06)	29122 (8.81)
SUBSIDIES	2222 (-7.34)	2301 (3.56)	3220 (39.34)	5486 (70.37)	7046 (28.43)	7255 (2.98)	7466 (2.90)	8693 (19.11)
CAPITAL ASSISTANCE	497 (0.01)	556 (0.01)	546 (0.01)	707 (0.01)	853 (0.01)	852 (0.01)	2332 (0.01)	3808 (0.01)
TRANSFERS TO NONRESIDENTS	630 (0.01)	1003 (0.01)	756 (0.01)	804 (0.01)	723 (0.01)	777 (0.01)	841 (0.01)	910 (0.01)
INTEREST ON THE PUBLIC DEBT	5101 (12.88)	6410 (25.66)	8080 (26.08)	9653 (19.47)	11576 (19.92)	14108 (21.87)	16004 (13.44)	17180 (7.36)
CAPITAL CONSUMPTION ALLOWANCES	554 (0.01)	806 (0.01)	686 (0.01)	776 (0.01)	895 (0.01)	1004 (0.01)	1115 (0.01)	1228 (0.01)
SURPLUS (+) OR DEFICIT (-)	-7303 (-3912)	-10854 (-3251)	-9213 (1441)	-10697 (-1484)	-6770 (3926)	-8195 (-1425)	-6938 (1657)	-6994 (-485)

	1985	1986	1987	1988	1989	1990
REVENUES						
INDIRECT TAXES						
DIRECT TAXES - CORP. & GOV'T. BUS. ENT.	35674	40693	46176	50725	56534	63367
	(17.77)	(14.07)	(13.47)	(9.85)	(11.45)	(12.09)
DIRECT TAXES & TRANSFERS FROM PERSONS	19427	22907	25127	27851	30804	33683
	(27.00)	(17.81)	(9.68)	(10.84)	(10.60)	(9.35)
DIRECT TAXES & TRANSFERS FROM NONRESIDENTS	44060	48104	53958	58584	64834	71347
	(6.49)	(11.45)	(9.90)	(8.56)	(10.16)	(10.56)
DIRECT TAXES ON NONRESIDENTS	15411	1745	2022	2242	2564	2882
	(2.31)	(0.44)	(0.54)	(0.64)	(0.74)	(0.84)
INVESTMENT INCOME	8061	8873	9944	10618	11830	12868
	(0.12)	(0.13)	(0.14)	(0.15)	(0.16)	(0.17)
NET TRANSF FROM (+), TO (-) OTHER GOV'T'S *	-22410	-24427	-26626	-28756	-31056	-33541
	(9.00)	(9.00)	(9.00)	(8.00)	(8.00)	(8.00)
EXPENDITURES						
CURRENT EXP. ON GOODS & SERVICES	33270	25612	28193	30897	33684	37610
	(8.93)	(10.06)	(10.06)	(9.59)	(9.05)	(11.62)
GROSS CAPITAL FORMATION	2340	2751	3172	3620	4185	4806
	(0.69)	(0.81)	(0.92)	(1.05)	(1.19)	(1.34)
TRANSFERS TO PERSONS	32184	35659	39318	43195	47528	52116
	(10.51)	(10.83)	(10.23)	(9.86)	(10.03)	(9.11)
SUBSIDIES	10146	11683	12947	14431	16277	18511
	(14.08)	(15.15)	(10.82)	(11.46)	(12.78)	(14.11)
CAPITAL ASSISTANCE	4840	5759	6680	7959	9480	11011
	(1.45)	(1.75)	(2.05)	(2.41)	(2.81)	(3.21)
TRANSFERS TO NONRESIDENTS	983	1061	1146	1238	1337	1414
	(0.29)	(0.31)	(0.33)	(0.35)	(0.37)	(0.39)
INTEREST ON THE PUBLIC DEBT	18476	19449	21165	22851	24380	26166
	(5.53)	(7.43)	(6.63)	(7.02)	(7.68)	(7.28)
CAPITAL CONSUMPTION ALLOWANCES	1381	1580	1801	2030	2280	2581
	(0.41)	(0.47)	(0.53)	(0.60)	(0.67)	(0.74)
SURPLUS (+) OR DEFICIT (-)	-4503	-1888	-209	-306	627	1439
	(249)	(2616)	(1679)	(-187)	(1024)	(811)

NOTE: See note to Table 2.26.

* Includes other revenues.

Table 2.31
Provincial governments' revenues and expenditures

	1977	1978	1979	1980	1981	1982	1983	1984
REVENUES								
INDIRECT TAXES	10039 (10.60)	10536 (4.85)	12008 (13.88)	13108 (9.16)	15185 (15.83)	17477 (15.10)	19752 (13.02)	22188 (12.38)
DIRECT TAXES - CORP. & GOV'T. BUS. ENT.	2089 (1.95)	2485 (16.98)	3140 (27.80)	3606 (14.84)	3842 (6.55)	5046 (31.33)	5757 (23.09)	6421 (11.13)
DIRECT TAXES & TRANSFERS FROM PERSONS	12604 (33.32)	14843 (17.76)	15550 (4.76)	17520 (12.87)	18933 (13.77)	21177 (17.73)	23895 (10.85)	25685 (7.02)
INVESTMENT INCOME	5200 (18.86)	6700 (28.85)	7992 (19.28)	8588 (17.23)	11000 (71.21)	13248 (31.35)	16032 (20.11)	18456 (15.11)
NET TRANSF FROM (+), TO (-) OTHER GOV'TS *	-5535 (25.03)	-5138 (-7.17)	-6554 (28.51)	-7012 (5.38)	-7521 (4.45)	-8059 (10.08)	-9013 (11.83)	-9822 (8.87)
EXPENDITURES								
CURRENT EXP. ON GOODS & SERVICES	12410 (14.85)	13887 (11.74)	15162 (9.24)	16938 (11.68)	20063 (18.47)	23202 (15.65)	26028 (12.18)	28483 (9.43)
GROSS CAPITAL FORMATION	2381 (9.95)	3553 (11.28)	2840 (10.83)	3183 (7.58)	3646 (15.27)	4116 (12.88)	4486 (9.01)	4941 (10.13)
TRANSFERS TO PERSONS	7507 (13.03)	8419 (12.15)	9251 (9.88)	10783 (16.56)	12487 (15.81)	15560 (24.60)	18528 (19.08)	21170 (14.25)
SUBSIDIES	1098 (16.07)	1159 (5.85)	1382 (20.10)	1457 (4.67)	1578 (-5.44)	1456 (4.97)	1511 (4.46)	1673 (10.74)
CAPITAL ASSISTANCE	169 (2680)	194 (3343)	213 (3712)	238 (4107)	384 (4614)	1042 (5116)	1385 (5514)	1581 (6074)
INTEREST ON THE PUBLIC DEBT								
CAPITAL CONSUMPTION ALLOWANCES	1113 (15.60)	1248 (24.28)	1405 (11.04)	1656 (10.64)	1792 (12.34)	1978 (10.80)	2177 (7.77)	2371 (10.15)
SURPLUS (+) OR DEFICIT (-)	-734 (809)	1049 (1783)	772 (-277)	1565 (783)	1857 (262)	982 (-874)	1235 (282)	1367 (132)

	1985	1986	1987	1988	1989	1990
REVENUES						
INDIRECT TAXES						
DIRECT TAXES - CORP. & GOV'T. BUS. ENT.	24884	28088	31287	34581	38523	43040
	(12.55)	(12.32)	(11.38)	(10.53)	(11.43)	(11.70)
DIRECT TAXES & TRANSFERS FROM PERSONS	7323	8397	9644	11154	12826	14489
	(14.05)	(14.88)	(14.85)	(15.65)	(15.08)	(12.88)
INVESTMENT INCOME	28830	31437	34243	36871	40685	44911
	(12.33)	(9.04)	(8.82)	(7.87)	(10.08)	(10.38)
NET TRANSFER FROM (+), TO (-) OTHER GOV'TS *	8516	22318	26121	30885	34478	38360
	(6.15)	(13.40)	(17.56)	(17.08)	(12.73)	(11.32)
	-10624	-12001	-13446	-14874	-16388	-18545
	(8.17)	(12.96)	(12.04)	(11.37)	(9.50)	(13.10)
EXPENDITURES						
CURRENT EXP. ON GOODS & SERVICES						
GROSS CAPITAL FORMATION	30895	33686	36937	40640	44662	48551
	(8.47)	(9.03)	(9.65)	(10.03)	(9.90)	(8.71)
TRANSFERS TO PERSONS	9575	8360	7108	7866	8817	9823
	(12.83)	(14.06)	(11.76)	(10.67)	(12.09)	(11.41)
SUBSIDIES	24657	28420	33026	36885	41608	46756
	(16.47)	(15.26)	(16.21)	(11.99)	(12.50)	(12.37)
CAPITAL ASSISTANCE	1844	2038	2253	2488	2746	3031
	(10.22)	(10.53)	(10.51)	(10.44)	(10.38)	(10.38)
INTEREST ON THE PUBLIC DEBT	1620	1691	1822	1976	2161	2271
	(8.15)	(7.48)	(8.40)	(10.07)	(12.18)	(14.38)
	(12.21)	(10.00)	(12.12)	(18.89)	(20.60)	(18.32)
CAPITAL CONSUMPTION ALLOWANCES						
SURPLUS (+) OR DEFICIT (-)	2634	2972	3334	3685	4092	4522
	(1333)	(1420)	(1631)	(1978)	(2076)	(1983)
	(-34)	(87)	(211)	(347)	(58)	(-85)

NOTES: See notes to Table 2.30.

Table 2.32
The balance of international payments and the exchange rate

	1977	1978	1979	1980	1981	1982	1983	1984
EXPORTS OF GOODS	44253 (16.47)	53084 (19.89)	65275 (21.04)	76170 (16.69)	84384 (10.78)	95641 (13.34)	111802 (16.90)	127302 (13.86)
IMPORTS OF GOODS	41823 (13.43)	49047 (18.12)	61125 (24.63)	68360 (11.84)	78753 (15.20)	90165 (14.49)	101315 (12.37)	112268 (10.81)
BALANCE OF TRADE	2730	4007	4150	7810	5631	5475	10486	15035
CAPITAL SERVICE RECEIPTS	874 (5.94)	1208 (38.22)	1271 (5.22)	1660 (30.61)	1869 (12.58)	2338 (25.13)	2882 (23.22)	3509 (21.77)
CAPITAL SERVICE PAYMENTS	4532 (36.38)	5904 (30.27)	8512 (10.30)	7204 (10.63)	8274 (14.86)	9483 (14.81)	11367 (19.87)	13788 (21.38)
BALANCE ON CAPITAL SERVICE	-3658	-4696	-5241	-5544	-6405	-7144	-8485	-10288
EXPORTS OF OTHER SERVICES	7421 (9.44)	8723 (17.84)	10541 (20.84)	12428 (17.90)	13846 (11.41)	15673 (13.20)	17869 (14.01)	20803 (15.30)
IMPORTS OF OTHER SERVICES	11207 (11.58)	13019 (16.17)	15034 (15.48)	17879 (18.92)	21077 (17.89)	23630 (13.06)	26843 (12.64)	30435 (13.38)
BALANCE ON SERVICES	-3786	-4296	-4493	-5451	-7231	-8157	-8973	-9831
NET TRANSFER RECEIPTS	413	50	690	1281	1561	983	1025	1052
CURRENT ACCOUNT BALANCE	-4301	-4935	-4894	-1804	-6445	-8844	-5846	-4034
NET LONG-TERM CAPITAL FLOWS	4259	3362	2838	1374	2790	4244	5537	5780
NET SHORT-TERM CAPITAL FLOWS	-1389	-1726	3745	-968	3155	3884	194	-1931
SDDS AND ADJUSTMENT	0	0	219	217	0	216	216	0
CHANGE IN FOREIGN EXCHANGE RESERVES	-1421	-3298	1908	-1281	-500	-500	0	0
DOLLARS								
EXCHANGE RATE: CENS/US\$	1.06	1.14	1.17	1.17	1.20	1.19	1.18	1.17
TERMS OF TRADE	1971=1.0							
(PX/PM)	1.07	1.03	1.07	1.07	1.06	1.07	1.10	1.11

	1985	1986	1987	1988	1989	1990
EXPORTS OF GOODS	144889	168192	189754	214038	239720	267952
(13.88)	(16.00)	(12.83)	(12.00)	(12.00)	(11.78)	(11.78)
IMPORTS OF GOODS	128765	148103	167365	182703	206391	232458
(14.68)	(15.02)	(13.01)	(8.16)	(12.96)	(12.63)	(12.63)
BALANCE OF TRADE	16225	20089	22399	31335	33328	35494
CAPITAL SERVICE RECEIPTS	4150	4809	5803	5802	7950	9199
(18.27)	(16.30)	(18.21)	(17.20)	(16.88)	(15.71)	(15.71)
CAPITAL SERVICE PAYMENTS	16440	20748	27744	28543	32500	36417
(19.15)	(26.21)	(18.25)	(15.35)	(13.87)	(12.05)	(12.05)
BALANCE ON CAPITAL SERVICE	-12289	-15838	-18940	-21740	-24550	-27218
EXPORTS OF OTHER SERVICES	23343	26267	30019	34028	38406	43775
(13.30)	(12.52)	(14.28)	(13.36)	(12.87)	(13.98)	(13.98)
IMPORTS OF OTHER SERVICES	33900	37333	40978	47003	52725	58124
(14.00)	(10.11)	(9.76)	(14.71)	(12.17)	(10.24)	(10.24)
BALANCE ON SERVICES	-10557	-11065	-10957	-12874	-14318	-14349
NET TRANSFER RECEIPTS	1081	1150	1223	1246	1343	1423
CURRENT ACCOUNT BALANCE	-5946	-5655	-5276	-2133	-4197	-4652
NET LONG-TERM CAPITAL FLOWS	7414	7300	7288	5955	6401	5800
NET SHORT-TERM CAPITAL FLOWS	-2062	-1849	-1228	-4037	-2508	-1363
SORS AND ADJUSTMENT	216	216	216	216	216	216
CHANGE IN FOREIGN EXCHANGE RESERVES	0	0	0	0	0	0
DOLLARS						
EXCHANGE RATE: CDM\$/US\$	1.17	1.16	1.16	1.15	1.15	1.15
1971=1.0						
TERMS OF TRADE	1.11	1.13	1.15	1.19	1.20	1.22
(PX/PM)						

NOTE: Levels in millions of dollars unless otherwise indicated; percentage changes in parentheses.

Table 2.33
Canada's real domestic product by industry

	1977	1978	1979	1980	1981	1982	1983	1984
1 AGRICULTURE, FISHING & TRAPPING	3108	3243	3196	3265	3303	3399	3381	3476
2 FORESTRY	678	722	750	736	758	785	792	823
3 MINERAL FUEL MINES & WELLS	1262	1264	1396	1359	1383	1422	1469	1472
4 OTHER MINES & QUARRIES	1985	1772	1907	2024	2024	1956	2008	2045
5 FOOD, FEED, BEVERAGES & TOBACCO	3147	3198	3316	3410	3436	3429	3474	3551
6 TEXTILES & CLOTHING	1560	1652	1773	1850	1748	1692	1703	1747
7 WOOD & FURNITURE	1498	1584	1580	1561	1595	1567	1629	1671
8 PAPER, PRINTING & ALLIED INDUSTRIES	2990	3231	3406	3465	3489	3444	3526	3592
9 PRIMARY METAL & METAL FABRICATING	3816	4030	4077	4231	4249	4124	4281	4451
10 MOTOR VEHICLES & PARTS	1961	2108	1979	1747	1862	1844	1924	2037
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	2164	2308	2534	2277	2247	2172	2317	2500
12 ELECTRICAL PRODUCTS	1952	1969	1720	1707	1678	1599	1664	1744
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	2733	2823	3118	3019	3084	3087	3236	3425
14 NON-METALLIC MINERAL PRODUCTS	860	830	829	862	886	871	916	967
15 OTHER MANUFACTURING INDUSTRIES	903	975	1015	974	936	884	903	942
TOTAL MANUFACTURING	23234	24565	25515	25003	25222	24714	25570	26628
16 CONSTRUCTION	6927	5870	7005	7195	7612	7627	8062	8487
17 ELECTRIC POWER, WATER & GAS UTILITIES	3620	3790	4023	4114	4299	4416	4642	4899
TOTAL GOODS-PRODUCING INDUSTRIES	40814	43228	43794	43699	44601	44190	45924	47828
18 TRANSPORTATION & STORAGE	6531	6896	7034	6924	6978	6935	7121	7334
19 COMMUNICATION	3932	4227	4547	4784	5111	5354	5768	6231
20 TRADE	13412	13876	14271	14143	14572	14557	15075	15557
21 FINANCE, INSURANCE & REAL ESTATE	13851	14364	14828	15553	16169	16452	17165	17859
22 OTHER SERVICE INDUSTRIES	15723	16867	16872	17228	17974	18486	19394	20368
TOTAL SERVICE INDUSTRIES	53450	56829	57551	58631	60605	61787	64523	67480
23 GOVERNMENT SECTOR	12236	13195	13467	12730	12657	12800	13051	13294
TOTAL: ALL SECTORS (GROSS DOMESTIC PRODUCT AT FACTOR COST - REAL)	107499	111248	114812	115061	116064	118777	123488	128602

	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	3549	3657	3728	3818	3892	3950
2 FORESTRY	849	885	912	944	970	996
3 MINERAL FUEL MINES & WELLS	1417	1416	1450	1563	1587	1583
4 OTHER MINES & QUARRIES	2059	2090	2092	2110	2106	2084
5 FOOD, FEED, BEVERAGES & TOBACCO	3605	3683	3744	3816	3878	3937
6 TEXTILES & CLOTHING	1728	1707	1672	1660	1650	1636
7 WOOD & FURNITURE	1708	1762	1803	1847	1876	1905
8 PAPER, PRINTING & ALLIED INDUSTRIES	3631	3708	3731	3780	3808	3834
9 PRIMARY METAL & METAL FABRICATING	4532	4626	4677	4789	4802	4822
10 MOTOR VEHICLES & PARTS	2106	2106	2129	2108	2084	1984
11 MACHINERY & OTHER TRANSPORTATION EQUIP.	2588	2706	2804	2947	3063	3156
12 ELECTRICAL PRODUCTS	1762	1801	1837	1888	1920	1946
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	3539	3674	3782	3927	4051	4170
14 NON-METALLIC MINERAL PRODUCTS	1003	1035	1064	1099	1128	1155
15 OTHER MANUFACTURING INDUSTRIES	927	926	913	919	922	921
TOTAL MANUFACTURING	27130	27729	28156	28747	29152	29465
16 CONSTRUCTION	8932	9314	9757	10201	10599	11019
17 ELECTRIC POWER, WATER & GAS UTILITIES	5126	5392	5689	5975	6266	6593
TOTAL GOODS-PRODUCING INDUSTRIES	49063	50483	51785	53358	54571	55710
18 TRANSPORTATION & STORAGE	7470	7638	7839	8042	8218	8468
19 COMMUNICATION	8698	7231	7771	8368	8992	9711
20 TRADE	15885	16524	17085	17653	18148	18696
21 FINANCE, INSURANCE & REAL ESTATE	18764	18574	20402	21254	21237	23134
22 OTHER SERVICE INDUSTRIES	21397	22526	23684	24873	26084	27586
TOTAL SERVICE INDUSTRIES	70315	73483	76781	80191	83377	87596
23 GOVERNMENT SECTOR	13525	13775	14071	14371	14646	14939
TOTAL: ALL SECTORS (GROSS DOMESTIC PRODUCT AT FACTOR COST - REAL)	132802	137741	142618	147921	152794	158245

NOTE: Levels in millions of 1971 dollars. For definition of government sector, see note a to Table 2.1b.

Table 2.33 continued

YEAR-OVER-YEAR PERCENTAGE CHANGE

	1977	1978	1979	1980	1981	1982	1983	1984
1 AGRICULTURE, FISHING & TRAPPING	1.30	4.32	-1.44	2.16	1.17	-0.12	2.50	2.81
2 FORESTRY	6.60	6.95	3.79	-1.83	2.99	-0.34	4.86	3.86
3 MINERAL FUEL MINES & WELLS	2.52	0.18	10.45	-2.62	1.77	2.81	3.28	0.20
4 OTHER MINES & QUARRIES	5.12	-10.70	7.61	6.27	-0.14	-3.33	2.65	1.82
5 FOOD, FEED, BEVERAGES & TOBACCO	0.92	1.52	3.68	2.83	0.78	-0.21	1.31	2.23
6 TEXTILES & CLOTHING	-0.12	4.53	7.35	-1.33	-0.10	-3.18	0.62	2.60
7 WOOD & FURNITURE	1.46	5.76	0.27	-1.20	2.16	-1.75	3.99	2.59
8 PAPER, PRINTING & ALLIED INDUSTRIES	1.17	8.05	5.41	1.75	0.99	-1.98	2.39	1.87
9 PRIMARY METAL & METAL FABRICATING	2.09	5.61	2.93	2.01	0.42	-2.94	3.81	3.96
10 MOTOR VEHICLES & PARTS	4.66	7.50	-6.21	-11.62	6.58	-0.96	4.29	5.88
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	2.91	7.46	8.97	-10.14	-1.31	-3.37	6.53	8.06
12 ELECTRICAL PRODUCTS	-5.11	2.35	7.60	-0.79	-1.65	-4.72	4.08	4.78
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	5.18	7.32	6.31	-3.18	2.16	0.09	4.82	7.84
14 NON-METALLIC MINERAL PRODUCTS	-2.24	5.68	-0.09	-7.15	2.73	-1.70	5.14	5.64
15 OTHER MANUFACTURING INDUSTRIES	-3.80	7.97	4.05	-4.01	-3.86	-5.53	2.11	4.29
TOTAL MANUFACTURING	1.33	5.73	3.87	-2.01	0.87	-2.02	3.46	4.14
16 CONSTRUCTION	-0.81	-0.82	1.99	2.70	5.79	0.20	5.70	5.27
17 ELECTRIC POWER, WATER & GAS UTILITIES	6.45	4.68	6.17	2.25	4.50	2.72	5.11	5.54
TOTAL GOODS-PRODUCING INDUSTRIES	1.68	3.46	3.71	-0.22	2.06	-0.92	3.92	4.15
18 TRANSPORTATION & STORAGE	4.44	2.52	5.06	-1.56	0.78	-0.62	2.69	2.98
19 COMMUNICATION	6.56	7.50	7.57	5.21	6.84	4.75	7.73	8.02
20 TRADE	0.74	3.46	2.84	-0.90	3.04	-0.10	3.56	3.40
21 FINANCE, INSURANCE & REAL ESTATE	5.76	3.70	3.23	4.89	3.96	1.75	4.33	4.63
22 OTHER SERVICE INDUSTRIES	6.30	6.00	1.23	2.11	4.34	2.86	4.90	5.03
TOTAL SERVICE INDUSTRIES	4.51	4.45	3.08	1.88	3.71	1.61	4.43	4.58
23 GOVERNMENT SECTOR	-0.29	-0.31	2.07	-5.47	-0.58	1.13	1.96	1.86
TOTAL: ALL SECTORS (GROSS DOMESTIC PRODUCT AT FACTOR COST - REAL)	2.81	3.49	3.20	0.22	2.61	0.60	3.87	4.13

	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	2.10	3.03	1.95	2.40	1.94	1.76
2 FORESTRY	3.23	4.19	3.11	3.48	2.71	2.66
3 MINERAL FUEL MINES & WELLS	-3.70	-0.11	2.41	7.84	1.48	-0.20
4 OTHER MINES & QUARRIES	0.70	1.48	0.11	0.86	-0.19	-0.58
5 FOOD, FEED, BEVERAGES & TOBACCO	1.51	2.16	1.67	1.91	1.62	1.52
6 TEXTILES & CLOTHING	-1.09	-1.19	-2.05	-0.73	-0.59	-0.90
7 WOOD & FURNITURE	2.20	3.15	2.31	2.44	1.58	1.57
8 PAPER, PRINTING & ALLIED INDUSTRIES	1.09	2.02	0.71	1.33	0.73	0.68
9 PRIMARY METAL & METAL FABRICATING	1.82	2.07	1.12	1.75	0.90	0.42
10 MOTOR VEHICLES & PARTS	3.41	-0.05	1.12	-1.13	-2.42	-3.42
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	3.51	4.58	3.61	5.08	3.94	3.06
12 ELECTRICAL PRODUCTS	1.06	2.18	2.02	2.75	1.73	1.32
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	3.32	3.81	2.95	3.84	3.16	2.93
14 NON-METALLIC MINERAL PRODUCTS	3.75	3.11	2.81	3.33	2.65	2.37
15 OTHER MANUFACTURING INDUSTRIES	-1.56	-0.11	-1.45	0.70	0.27	-0.09
TOTAL MANUFACTURING	1.89	2.21	1.54	2.10	1.41	1.07
16 CONSTRUCTION	5.25	4.27	4.77	4.54	3.90	3.97
17 ELECTRIC POWER, WATER & GAS UTILITIES	4.64	5.20	5.14	5.39	4.87	5.21
TOTAL GOODS-PRODUCING INDUSTRIES	2.58	2.89	2.54	3.08	2.27	2.09
18 TRANSPORTATION & STORAGE	1.86	2.25	2.62	2.60	2.18	3.05
19 COMMUNICATION	7.50	7.79	7.63	7.48	7.45	8.00
20 TRADE	2.55	3.37	3.40	3.33	2.80	3.02
21 FINANCE, INSURANCE & REAL ESTATE	4.48	4.32	4.23	4.18	4.15	4.51
22 OTHER SERVICE INDUSTRIES	5.05	5.27	5.14	5.02	4.87	5.76
TOTAL SERVICE INDUSTRIES	4.20	4.51	4.49	4.44	4.22	4.81
23 GOVERNMENT SECTOR	1.74	1.85	2.15	2.13	1.91	2.01
TOTAL: ALL SECTORS (GROSS DOMESTIC PRODUCT AT FACTOR COST - REAL)	3.34	3.64	3.54	3.72	3.29	3.57

Table 2.34

Canada's employment by industry

	1977	1978	1979	1980	1981	1982	1983	1984
1 AGRICULTURE, FISHING & TRAPPING	484	497	513	520	511	497	489	480
2 FORESTRY	70	74	76	76	78	80	83	86
3 MINERAL FUEL MINES & WELLS	30	33	37	41	43	44	45	45
4 OTHER MINES & QUARRIES	124	131	134	152	158	159	167	174
5 FOOD, FEED, BEVERAGES & TOBACCO	260	268	278	294	287	288	300	303
6 TEXTILES & CLOTHING	204	210	220	223	221	212	208	208
7 WOOD & FURNITURE	153	160	169	170	170	166	169	169
8 PAPER, PRINTING & ALLIED INDUSTRIES	242	250	262	273	276	273	277	279
9 PRIMARY METAL & METAL FABRICATING	286	287	315	330	332	324	333	342
10 MOTOR VEHICLES & PARTS	112	117	116	99	98	107	112	119
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	178	181	218	228	223	214	219	226
12 ELECTRICAL PRODUCTS	136	139	147	153	148	141	144	148
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	150	155	164	170	173	172	176	182
14 NON-METALLIC MINERAL PRODUCTS	59	60	63	64	66	66	68	71
15 OTHER MANUFACTURING INDUSTRIES	107	111	118	118	113	106	107	110
TOTAL MANUFACTURING	1886	1956	2069	2121	2127	2080	2114	2156
16 CONSTRUCTION	633	631	640	628	679	695	742	786
17 ELECTRIC POWER, WATER & GAS UTILITIES	103	110	117	115	118	121	125	128
TOTAL GOODS-PRODUCING INDUSTRIES	3329	3429	3582	3648	3710	3676	3765	3855
18 TRANSPORTATION & STORAGE	480	502	525	525	525	520	524	527
19 COMMUNICATION	237	245	257	257	268	273	284	294
20 TRADE	1679	1736	1806	1850	1922	1944	2008	2058
21 FINANCE, INSURANCE & REAL ESTATE	531	546	553	614	641	657	681	704
22 OTHER SERVICE INDUSTRIES	2195	2286	2393	2558	2742	2880	2984	3106
TOTAL SERVICE INDUSTRIES	5085	5319	5538	5805	6089	6255	6478	6689
23 GOVERNMENT SECTOR	1235	1223	1248	1198	1126	1146	1167	1186
TOTAL: ALL SECTORS	9648	9971	10368	10655	10940	11077	11410	11733

	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING						
2 FORESTRY	470	482	450	440	430	419
3 MINERAL FUEL MINES & WELLS	88	91	93	96	98	100
4 OTHER MINES & QUARRIES	44	43	44	47	47	47
	179	185	189	194	199	202
5 FOOD, FEED, BEVERAGES & TOBACCO	309	307	308	310	312	313
6 TEXTILES & CLOTHING	201	193	184	177	171	165
7 WOOD & FURNITURE	168	168	168	167	166	165
8 PAPER, PRINTING & ALLIED INDUSTRIES	279	280	278	278	277	275
9 PRIMARY METAL & METAL FABRICATING	344	346	348	346	346	344
10 MOTOR VEHICLES & PARTS	123	122	124	122	118	114
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	224	226	226	227	228	227
12 ELECTRICAL PRODUCTS	146	146	146	146	146	144
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	184	188	187	186	191	182
14 NON-METALLIC MINERAL PRODUCTS	73	74	76	77	79	80
15 OTHER MANUFACTURING INDUSTRIES	106	104	100	98	97	94
TOTAL MANUFACTURING	2199	2193	2141	2138	2132	2114
16 CONSTRUCTION	834	872	920	970	1020	1069
17 ELECTRIC POWER, WATER & GAS UTILITIES	131	134	138	141	145	149
TOTAL GOODS-PRODUCING INDUSTRIES	3900	3941	3975	4027	4072	4100
18 TRANSPORTATION & STORAGE	526	524	525	526	527	530
19 COMMUNICATION	303	313	323	333	344	356
20 TRADE	2100	2149	2204	2258	2311	2363
21 FINANCE, INSURANCE & REAL ESTATE	729	751	774	787	823	851
22 OTHER SERVICE INDUSTRIES	3240	3372	3515	3662	3824	4012
TOTAL SERVICE INDUSTRIES	6898	7109	7341	7576	7827	8111
23 GOVERNMENT SECTOR	1210	1232	1254	1277	1300	1323
TOTAL: ALL SECTORS	12008	12282	12570	12879	13199	13535

NOTE: Levels in thousands of persons. For definition of government, see note a to Table 2.15.

Table 2.34 continued

YEAR-OVER-YEAR PERCENTAGE CHANGE

	1977	1978	1979	1980	1981	1982	1983	1984
1 AGRICULTURE, FISHING & TRAPPING	-1.62	2.70	3.27	1.31	-1.70	-2.61	-1.68	-1.77
2 FORESTRY	5.86	4.91	3.37	-0.69	3.86	0.81	4.62	3.31
3 MINERAL FUEL MINES & WELLS	13.19	10.15	10.13	13.41	2.59	3.72	2.69	-0.36
4 OTHER MINES & QUARRIES	0.94	5.56	2.18	14.09	3.63	0.66	5.11	3.82
5 FOOD, FEED, BEVERAGES & TOBACCO	0.84	2.14	4.40	5.79	1.18	0.42	0.51	1.04
6 TEXTILES & CLOTHING	-4.80	4.40	4.40	1.78	-1.15	-3.95	-1.64	-0.14
7 WOOD & FURNITURE	-3.16	4.74	5.94	-0.40	1.05	-2.41	1.57	-0.10
8 PAPER, PRINTING & ALLIED INDUSTRIES	-0.13	3.29	4.34	4.26	0.62	-1.19	1.51	0.38
9 PRIMARY METAL & METAL FABRICATING	-1.05	3.02	6.09	4.89	0.62	-2.52	2.80	0.52
10 MOTOR VEHICLES & PARTS	-4.68	4.06	-0.84	-15.86	0.35	0.55	4.68	8.86
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	-2.66	8.67	14.37	4.80	-2.52	-3.83	3.20	3.10
12 ELECTRICAL PRODUCTS	-7.08	1.61	6.13	3.99	-2.45	-5.34	2.10	2.51
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	-1.40	3.44	6.13	3.64	1.38	-0.41	2.66	3.24
14 NON-METALLIC MINERAL PRODUCTS	-2.51	1.78	5.52	1.54	3.11	-0.75	4.08	4.24
15 OTHER MANUFACTURING INDUSTRIES	-6.58	3.35	6.31	0.35	-4.40	-6.11	0.78	2.70
TOTAL MANUFACTURING	-1.74	3.56	5.81	2.49	0.29	-2.22	1.66	1.97
16 CONSTRUCTION	-0.32	-0.30	1.34	-1.84	8.12	2.30	6.74	5.97
17 ELECTRIC POWER, WATER & GAS UTILITIES	3.30	7.66	5.71	-1.81	3.57	2.02	2.93	2.96
TOTAL GOODS-PRODUCING INDUSTRIES	-1.02	3.01	4.47	1.84	1.70	-0.93	2.44	2.39
18 TRANSPORTATION & STORAGE	-1.57	4.47	4.73	-0.12	0.12	-0.99	0.69	0.60
19 COMMUNICATION	-0.39	3.51	5.08	-0.07	4.07	2.15	3.72	3.60
20 TRADE	2.06	3.51	3.82	2.47	3.90	1.12	3.17	2.64
21 FINANCE, INSURANCE & REAL ESTATE	6.90	2.82	1.29	11.10	4.46	2.47	3.58	3.49
22 OTHER SERVICE INDUSTRIES	7.84	6.07	4.71	6.69	7.20	4.29	4.34	4.08
TOTAL SERVICE INDUSTRIES	4.38	4.60	4.12	4.81	5.08	2.55	3.56	3.27
23 GOVERNMENT SECTOR	-1.02	-0.87	2.04	-4.01	-6.00	1.81	1.81	1.81
TOTAL: ALL SECTORS	1.75	3.34	3.89	2.77	2.67	1.25	3.01	2.83

YEAR-OVER-YEAR PERCENTAGE CHANGE

	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	-2.18	-1.76	-2.54	-2.25	-2.23	-2.67
2 FORESTRY	2.78	3.35	2.46	2.76	2.42	2.04
3 MINERAL FUEL MINES & WELLS	-3.40	-0.75	1.56	6.28	1.12	-0.48
4 OTHER MINES & QUARRIES	3.00	3.36	2.21	2.85	2.26	1.56
5 FOOD, FEED, BEVERAGES & TOBACCO	0.95	0.76	0.44	0.98	0.70	0.28
6 TEXTILES & CLOTHING	-3.52	-4.04	-4.75	-3.77	-3.07	-3.89
7 WOOD & FURNITURE	-0.28	0.22	-0.34	-0.27	-0.66	-0.97
8 PAPER, PRINTING & ALLIED INDUSTRIES	-0.03	0.52	-0.65	-0.11	-0.31	-0.16
9 PRIMARY METAL & METAL FABRICATING	0.70	0.54	-0.17	0.35	-0.00	-0.75
10 MOTOR VEHICLES & PARTS	3.98	-0.48	0.91	-1.61	-2.56	-3.75
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	-0.07	0.28	-0.25	0.72	0.38	-0.33
12 ELECTRICAL PRODUCTS	-1.03	-0.34	-0.28	0.26	-0.19	-0.82
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	1.04	1.11	-0.48	1.17	1.07	0.44
14 NON-METALLIC MINERAL PRODUCTS	2.69	1.70	1.75	2.23	2.07	1.45
15 OTHER MANUFACTURING INDUSTRIES	43.47	-2.31	-3.62	-1.78	-1.47	-2.51
TOTAL MANUFACTURING	-0.06	-0.08	-0.57	-0.12	-0.27	-0.87
16 CONSTRUCTION	6.09	4.61	5.53	5.44	5.11	4.82
17 ELECTRIC POWER, WATER & GAS UTILITIES	2.27	2.39	2.51	2.73	2.57	2.64
TOTAL GOODS-PRODUCING INDUSTRIES	1.17	1.03	0.88	1.30	1.12	0.68
18 TRANSPORTATION & STORAGE	-0.28	-0.31	0.23	0.16	0.12	0.69
19 COMMUNICATION	3.25	3.10	3.13	3.14	3.26	3.56
20 TRADE	2.00	2.35	2.57	2.44	2.33	2.25
21 FINANCE, INSURANCE & REAL ESTATE	3.56	2.95	3.04	2.93	3.29	3.39
22 OTHER SERVICE INDUSTRIES	4.31	4.09	4.23	4.19	4.41	4.93
TOTAL SERVICE INDUSTRIES	3.12	3.06	3.26	3.19	3.32	3.63
23 GOVERNMENT SECTOR	1.81	1.81	1.81	1.81	1.81	1.81
TOTAL: ALL SECTORS	2.34	2.28	2.35	2.46	2.48	2.54

3

The Ontario projection

Having obtained our projections for the nation's economy, we can turn our attention to Ontario's. This chapter is devoted to presenting and discussing the results, after examining several key assumptions.¹

ASSUMPTIONS

In effect, the entire preceding chapter has been a discussion of the assumptions underlying the Ontario projection, for it is the state of the national economy, more than anything else, that determines the future of the Ontario economy. Nonetheless, producing the Ontario projection required additional assumptions in three areas: the provinces' relative growth rates of population, their relative growth rates of labour productivity, and movements in Ontario's share of the outputs of certain industries. These three elements are related and provided crosschecks on each other: relative population growth affects a province's labour supply, while changes in productivity and output shares affect labour demand. If our initial assumptions when combined with the national projection, resulted in a situation for Ontario or other provinces of excess demand or supply of labour - that is, in an unreasonable unemployment rate - the clear signal was that we had to revise one or more of our assumptions.

1 These topics frequently require reference to other parts of Canada, so the reader should keep in mind the definitions we have used in describing this country of many regions: unless otherwise qualified, 'the East' means the Atlantic provinces and Quebec, while 'the West' designates Saskatchewan, Alberta, and British Columbia.

Assumptions about labour-force growth in Ontario

Growth rates of the source population drop in all parts of the country because national increase is much reduced (the baby-boom has passed entirely into the source-population age brackets). Quebec has an exceptionally low rate of natural increase, which is one reason why source-population growth in the East is so small.²

Of particular interest in the population projections is the large amount of westward migration.³ The labour force is, of course, the product of the source population and the labour-force participation rate. While participation rates are determined endogenously by the PRISM model, our projections for the source population are exogenous variables.⁴ It is useful to examine them and our labour-force projections briefly. Both are summarized in Table 3.1 and Figures 3.1 and 3.2; greater detail can be found in Tables 3.16 and 3.17 at the end of the chapter.

The pattern of westward movement is, of course, quite prominent in the 1974-80 period; it can also be seen in 1967-73, although during the earlier period, Ontario was also a net recipient of migrants and its population grew above the national rate.

In the 1980s, the pattern of considerable westward migration continues. It must not, however, be overemphasized. The present age is not one of massive migrations, such as those at the turn of the century, save in cases of war or other disaster. Within Canada today, people move only to areas that offer them at least some prospect of obtaining housing, social acceptance, and access to social services and education. Such services are generally provided by governments - which respond to the desires of the existing residents, who are often anxious about the possible ill effects and disruptions of heavy in-migration. In short, it seems unlikely that the West, especially Alberta, would accommodate a rate of in-migration much higher than that of the later 1970s and early 1980s. Thus, the assumptions made here are at the high end of the probable range.

Moreover, the PRISM figures for labour-force participation rates serve to

2 Low natural increases are also projected for Manitoba.

3 In fact, some additional westward migration (largely from the Atlantic provinces) was imposed for the present projections.

4 The provincial population projection, like the national ones, are taken from work by David Foot (1982).

TABLE 3.1

Growth rate of source population and labour force by province/region

	Annual averages				
	1967-73	1974-80	1981-3	1984-6	1987-90
Labour-force source population					
Canada	2.7	2.1	1.5	1.2	1.0
Ontario	3.0	2.1	1.3	1.1	0.9
East	2.2	1.7	0.8	0.5	0.4
West	3.1	3.0	2.9	2.6	2.1
Alberta	3.4	4.1	3.9	3.4	2.9
Labour force					
Canada	3.1	3.2	2.5	2.0	2.2
Ontario	3.4	3.1	2.3	1.7	1.8
East	2.5	2.6	2.0	1.6	1.8
West	3.7	4.2	3.7	3.0	3.2
Alberta	3.9	5.3	4.7	3.8	4.0

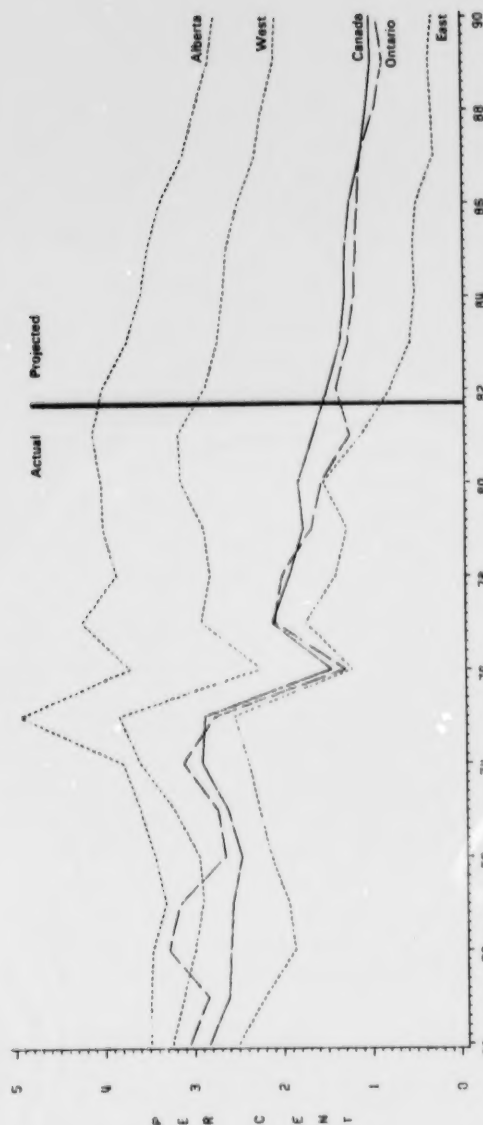
NOTE: 'East' comprises Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick, and Quebec; 'West' comprises Saskatchewan, Alberta, and British Columbia.

offset slightly the effects of movements in source populations. In 1974-80, increased participation offset the effect of falling source-population growth and caused labour-force growth to rise slightly; moreover, the regional pattern in source-population growth was exaggerated by participation-rate movements. In this decade, however, the areas that are below the national average in population growth are also below the national average in labour-force growth, but to a lesser degree. The opposite holds for those areas above the national averages. This phenomenon occurs because during the 1980s, unemployment rates are generally falling (if slowly), bringing 'discouraged workers' (those who have stopped participating) back into the labour force. This pattern is more pronounced in the East and Ontario than in the West. In Alberta, participation rates in the early 1980s are already very high (just above 70 per cent in 1981), leaving relatively less room for further increases.

Assumptions about provincial labour productivity

The second factor affecting the provincial projection is relative movements in labour productivity. Table 3.2 and Figures 3.3 and 3.4 present past and

Figure 3.1
Growth rates of labour-force population by province/region



NOTE: 'East' comprises Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick, and Quebec; 'West' comprises Saskatchewan, Alberta, and British Columbia.

Figure 3.2
Growth rates of labour force by province/region



NOTE: See note to Figure 3.1.

projected movements; year-by-year projections for Ontario are in the more detailed tables at the end of this chapter.⁵

Comparing 1974-80 to 1967-73 for labour productivity in aggregate and for the manufacturing and the goods-producing sectors, one can see that Ontario's position above the national average was considerably reduced in the later period, while the negative position of the East, especially Quebec, was much improved. In retrospect, the relative movements are not very surprising: a relatively low level of labour productivity can indicate a relatively high - and profitable - rate of capital productivity. (It may also indicate relatively great opportunities for increase through education and training.) Within limits, the natural equilibrating mechanisms of the market economy tend to equalize interregional differences of this sort, much as water seeks a common level. During the 1960s and 1970s, regional growth policies at the federal level may have helped the process - but this topic cannot be dealt with here.

Part of the explanation for the relative improvement of Alberta's already high position is the way in which the energy sector made the province a special growth-pole, attracting new energy-oriented industries. Note, however, that while Alberta's labour productivity rose in manufacturing between 1967-73 and 1974-80, it fell somewhat in the goods-producing sector as a whole. The explanation is that productivity fell heavily in the mineral fuels industry with the tapping of sources that were less readily accessible and required more labour per unit of production.

For the next decade, we assume a considerable levelling off of the previous movements of provincial productivity in all sectors combined. That is, Ontario's positive position declines only a little more, Quebec's negative position is reduced only slightly, and Alberta's positive position is also somewhat eroded. Partly, these results stem from our unwillingness simply to extrapolate the trends of the later 1970s. Much of the productivity difference between Ontario and Quebec has been erased, and it seems reasonable to reduce the rate at which the two will converge in the future. (And, as we have seen, it is convergence - not a crossover - that is to be expected.)

Partly, however, the results for aggregate provincial productivity stem from changes in the relative size of industries composing the aggregate. Table 3.2 and Figure 3.4 show that past trends are quite evident in manu-

5 For a recent discussion of interprovincial productivity movements, focussing on total factor productivity, see Denny and Fuss (1983).

The Ontario Economy 1982 - 1995

TABLE 3.2

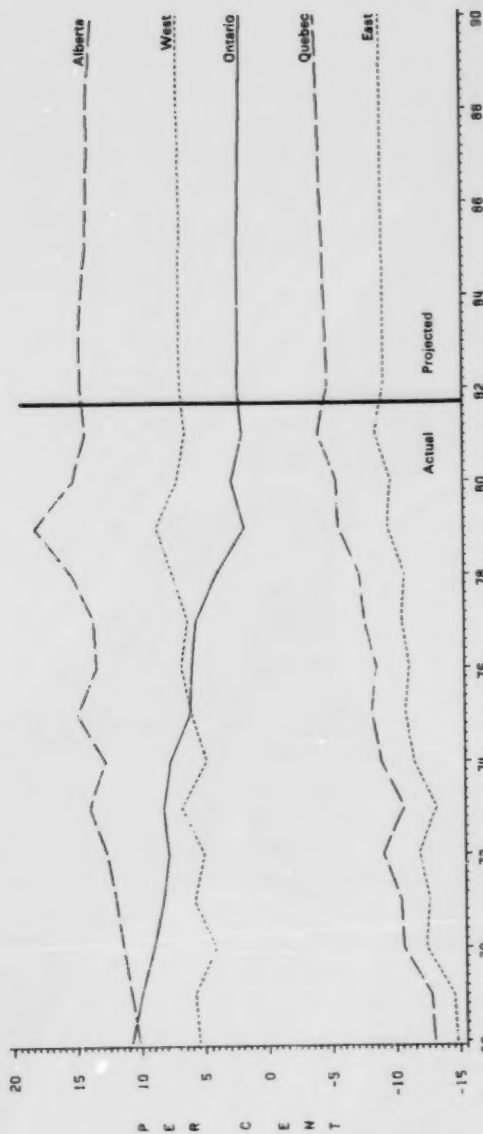
Labour productivity by province/region
(percentage deviation from national average)

	Annual averages				
	1967-73	1974-80	1981-3	1984-6	1987-90
All sectors combined					
Ontario	9.3	4.8	2.0	2.1	1.9
East	-13.6	-10.6	-9.1	-9.3	-2
Quebec	-11.4	-7.4	-4.6	-4.6	-4.2
West	5.7	6.6	6.6	6.7	6.8
Alberta	11.7	14.7	14.4	14.1	13.7
Manufacturing					
Ontario	10.8	7.0	4.5	3.8	2.9
East	-15.8	-11.5	-8.0	-7.6	-6.7
Quebec	-15.5	-10.7	-6.3	-5.7	-4.6
West	6.2	5.1	4.6	5.3	5.8
Alberta	12.1	15.4	16.1	17.8	19.4
Goods-producing industries					
Ontario	9.9	5.8	3.3	3.5	3.8
East	-13.6	-9.6	-6.7	-6.4	-5.6
Quebec	-12.3	-7.5	-3.1	-2.3	-0.7
West	5.0	4.8	4.3	3.2	1.7
Alberta	21.1	20.5	17.2	13.9	9.6

NOTE: See note to Table 3.1

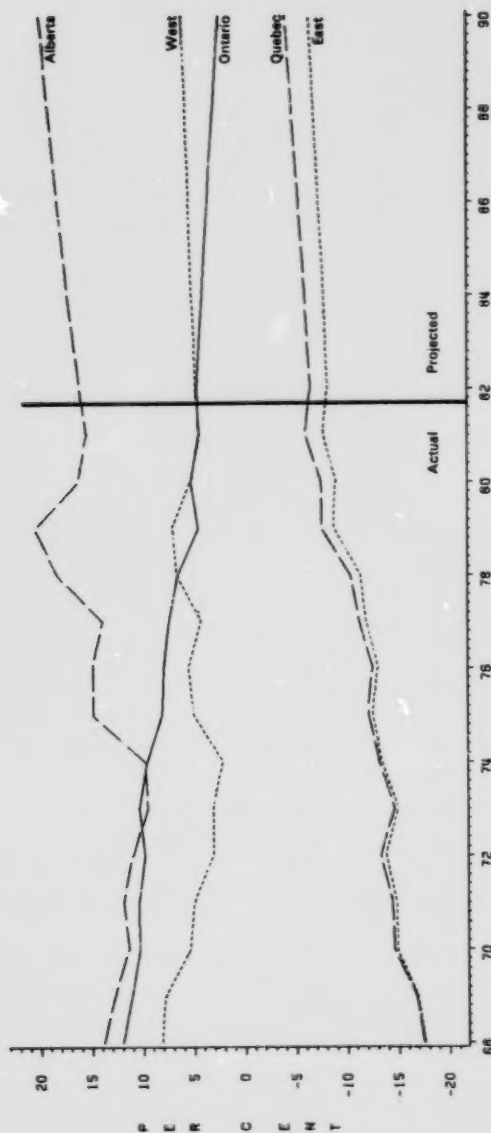
facturing; here the gap between Ontario and Quebec continues to close and that between Alberta and Canada as a whole to widen. The levelling off in the Alberta-Canada gap comes from the non manufacturing goods sectors. Specifically, Alberta increases its output shares of the construction and mining industries - both of which, as we saw in Chapter 2, are projected to have very low productivity growth. (Likewise, the relative decline of these sectors in Ontario and Quebec accounts for both provinces' relative improvements in productivity in the goods-producing aggregate.) Moreover, productivity growth in the mineral fuels sector is also low. Finally, the service sectors grow considerably in Alberta in the 1980s - and although their productivity is projected to be somewhat higher than national levels, their absolute values are still low and bring down the provincial average. (The increased importance of the service sectors also tends to slow the convergence of Ontario's and Quebec's aggregate labour productivities.)

Figure 3.3
Labour productivity by province/region
(percentage deviation from national average)



NOTE: See note to Figure 3.1.

Figure 3.4
Labour productivity in manufacturing by province/region
(percentage deviation from national average)



NOTE: See note to Figure 3.1.

Assumptions about provincial output shares by sector

Perhaps the most critical of our assumptions for Ontario concern future changes in its share of the output of various industries.⁶ Provincial output shares depend upon a host of elements: labour availability and skills, wage rates, accessibility of markets, resource endowments, and major government initiatives and stimulative policies. The resources available for this study did not permit intense investigation of each of these factors, but the record of past changes in shares is available to be read, and certain major trends - such as further resource exploitation in the West - are beyond reasonable doubt. From these sources, we obtained the assumptions about share shifts that are incorporated in the projections. Like our other assumptions, they embody no surprises. And while they are conservative in assuming relatively little shift away from Ontario (especially westwards), this conservatism is required to yield consistency with the assumptions about population and productivity already discussed.

Our shares assumptions are summarized and compared with history in Table 3.3 and Figures 3.5 to 3.9; details are in Table 3.12 at the end of the chapter.⁷

Examining the aggregates first (see especially Figure 3.9), it is clear that given Ontario's already large scale, its share of the Canadian economy has changed relatively little since the late 1960s; on average, the province accounted for about 42 per cent of Canadian output in 1967-73 and about 40 per cent in 1974-80. A further gradual decline is projected, to an output share averaging 38.4 per cent over the 1980s and ending the decade at 37.8 per cent. The principal source of the decline is in the goods-producing industries - not so much in manufacturing, although that does decline slightly, but in mining and construction (see Figures 3.5 and 3.7). The decline in construction is especially prominent and is, of course, the result of major project development in the West. Remember, however, that a decline in Ontario's share of construction does not necessarily entail a similar decline in

6 While the PRISM model projects Ontario's share of the tertiary sectors (largely services), explicit external assumptions must be made about its share of primary goods-producing sectors and of manufacturing.

7 Note that the tables and figures include results for certain aggregate shares - for example, the Ontario share of manufacturing - which are not, strictly speaking, assumed, since they depend on the changing mix of sectors projected at the national level.

The Ontario Economy 1982 - 1995

TABLE 3.3

Ontario's output shares by industry: summary

	Annual average		
	1967-73	1974-80	1981-90
Agriculture, fishing, & trapping	0.251	0.240	0.222
Forestry	0.162	0.149	0.146
Mineral-fuel mines & wells	0.003	0.002	0.002
Other mines & quarries	0.309	0.241	0.154
Food, feed, beverages, & tobacco	0.447	0.442	0.423
Textiles & clothing	0.350	0.366	0.394
Wood & furniture	0.267	0.252	0.206
Paper, printing, & allied industries	0.421	0.385	0.383
Primary metal & metal fabricating	0.612	0.594	0.571
Motor vehicles & parts	0.909	0.896	0.871
Machinery & other transportation equipment	0.609	0.573	0.562
Electrical products	0.658	0.679	0.675
Chemical, rubber, & petroleum products	0.579	0.564	0.550
Nonmetallic mineral products	0.510	0.476	0.426
Other manufacturing industries	0.642	0.654	0.653
Total manufacturing	0.543	0.532	0.514
Construction	0.355	0.300	0.244
Electric power, water, & gas utilities	0.366	0.341	0.329
Total goods-producing industries	0.438	0.418	0.387
Transportation & storage	0.333	0.325	0.321
Communication	0.403	0.404	0.401
Trade	0.401	0.383	0.366
Finance, insurance, & real estate	0.443	0.438	0.427
Other service industries	0.409	0.409	0.400
Total service industries	0.405	0.399	0.391
Government sector	0.403	0.383	0.359
Total: all sectors	0.418	0.403	0.384

construction activity since the sector's relative size in the economy as a whole is projected to increase under the investment-led growth of the 1980s. In fact, in terms of output, Ontario's construction sector is projected to grow somewhat over the 1980s.

Within manufacturing, the largest projected decline is in the province's share of the nonmetallic minerals sector, which is a chief supplier to construction and whose products are, in many cases, not easily transported over long distances. Most of the other major manufacturing sectors are projected

Figure 3.5
Ontario's shares of primary industries

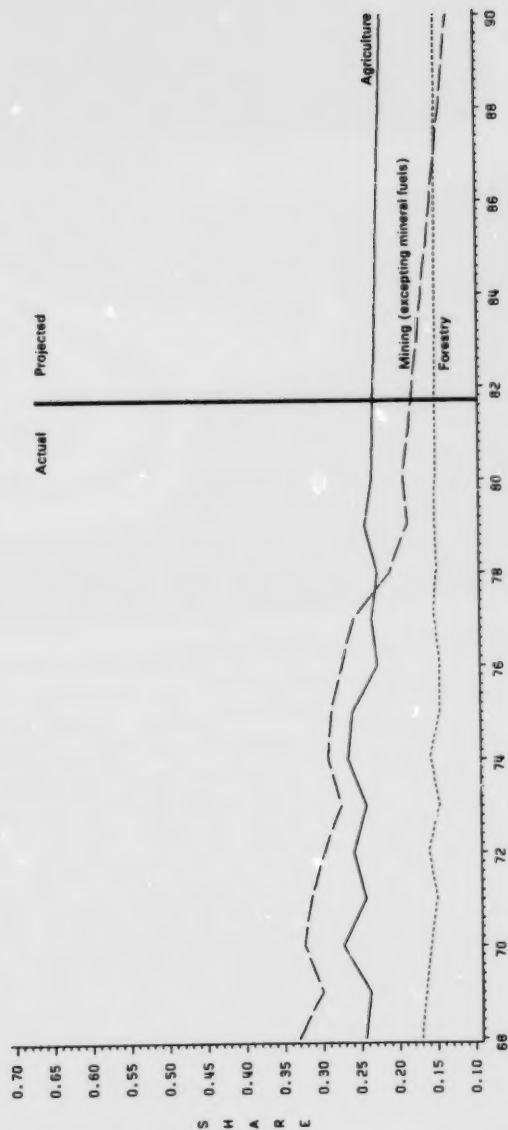


Figure 3.6
Ontario's share of manufacturing industries

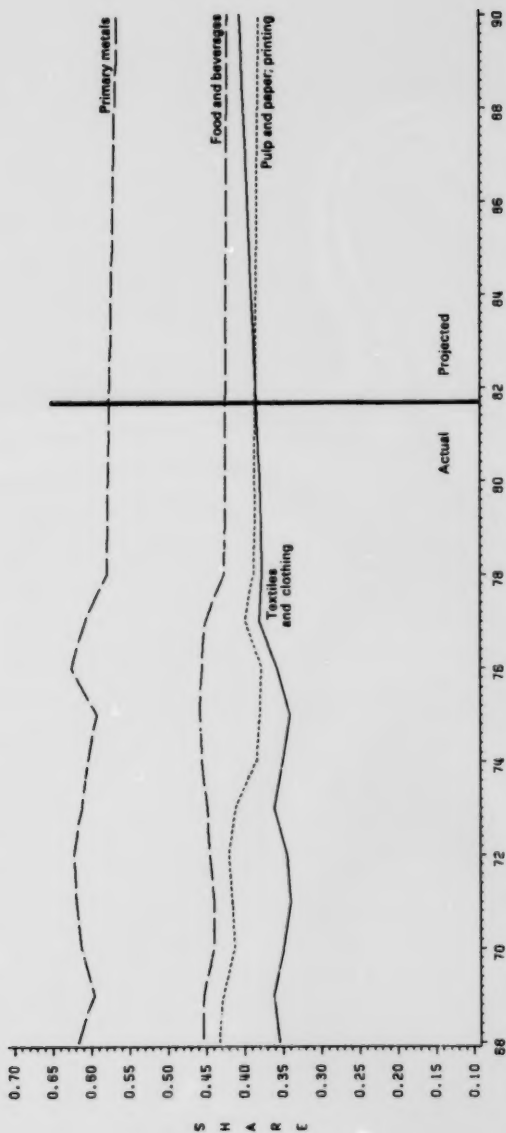


Figure 3.6 continued

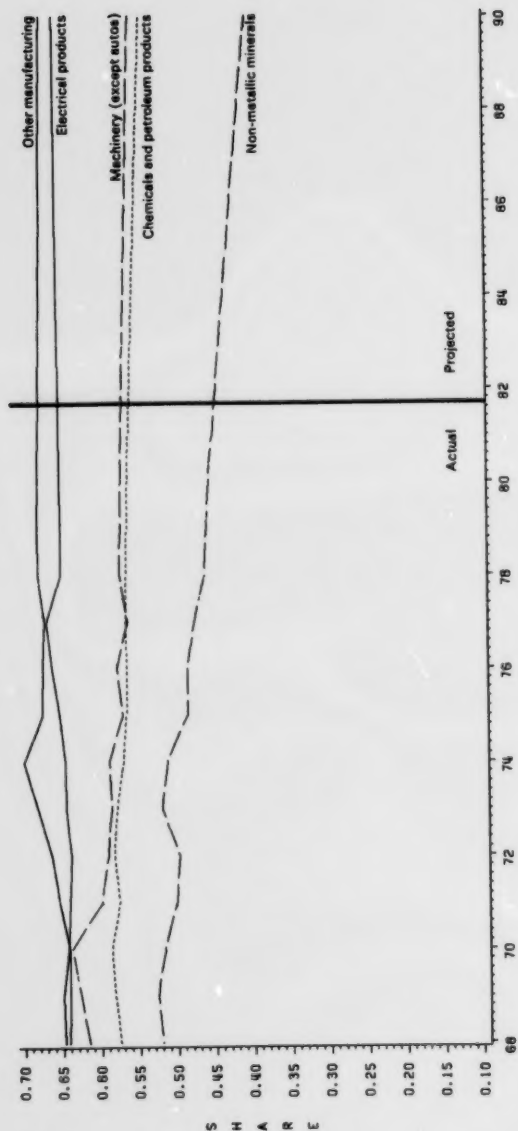


Figure 3.7
Ontario's shares of construction and utilities

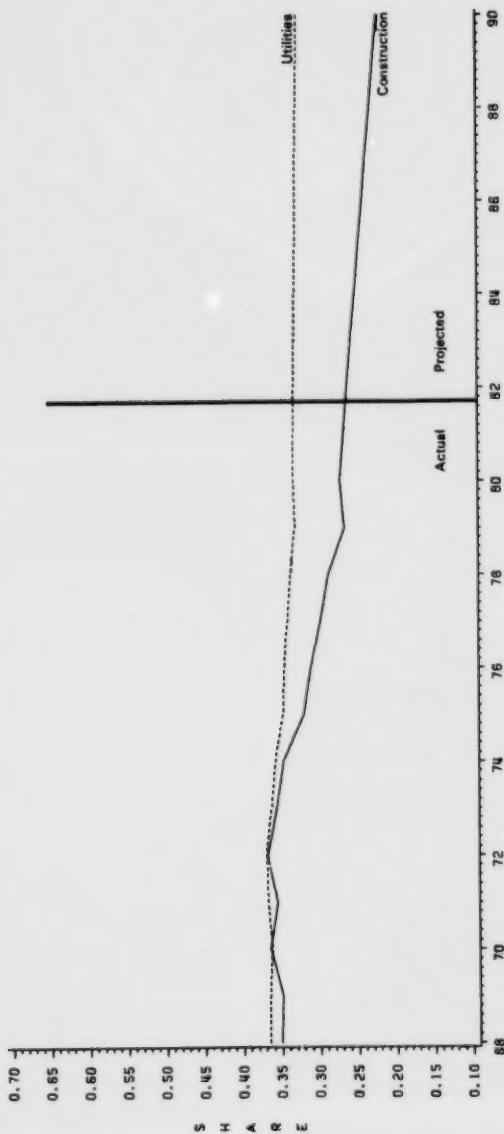


Figure 3.8
Ontario's shares of selected services

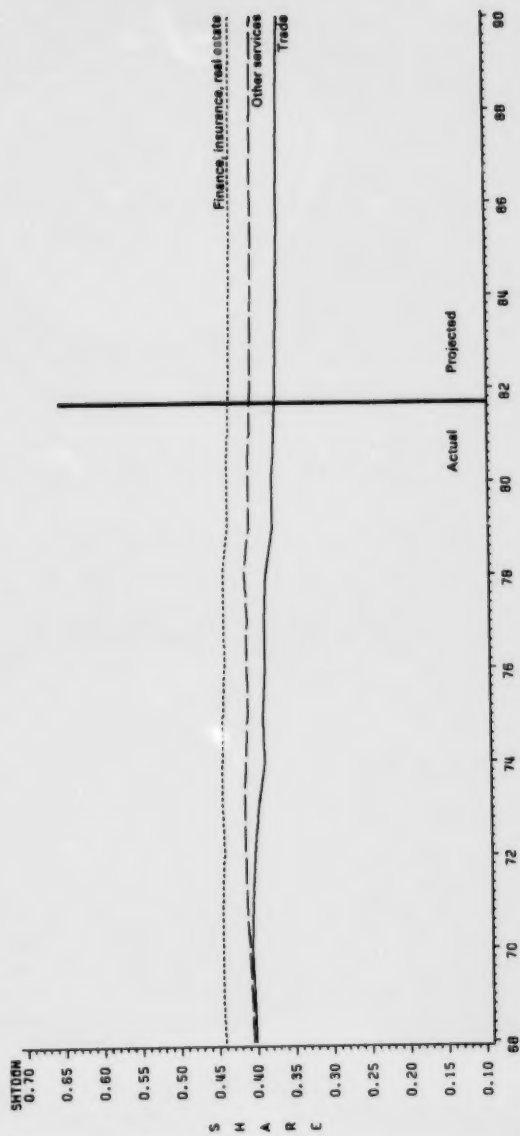
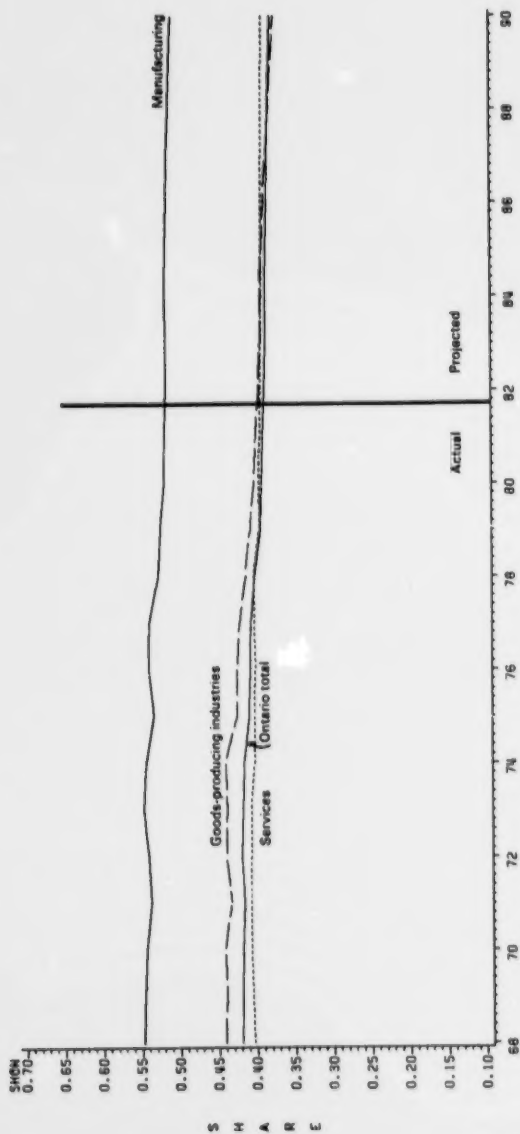


Figure 3.9
Ontario's shares of industrial aggregates



to see only slight declines; and a small increase in textiles and clothing is suggested very tentatively, on the basis of past trends. One reason the changes in Ontario shares appear so small for such sectors as metals, machinery, and electrical products is that the shares are very large to begin with. In contrast, the high-growth western provinces' shares of some of these industries in 1980 are so low that a relatively large increase (of say, 50 per cent) entails a relatively small change in Ontario's share.

Within services, the movements in shares are small; the largest relative decrease during the 1970s was in wholesale and retail trade, and this trend is projected to continue. Note also the fall in Ontario's share of government (see Table 3.3). The combination of projected federal and provincial restraints in Ontario with the West's relatively robust revenue sources and its need to provide for a relatively faster-growing population suggests that a decline of this extent is not unreasonable.

THE ONTARIO PROJECTION: RESULTS

Given the national projection described in Chapter 2 and the additional assumptions just outlined, there are few surprises in the Ontario results, which are summarized in Tables 3.4 and Figure 3.10. More detailed, year-by-year summaries are presented in Tables 3.15 and 3.14 at the end of the chapter.

Since the results for Ontario do not differ drastically from those for Canada as a whole and since the national results were described in Chapter 2, much of the following discussion simply compares Ontario to the country as a whole or to other provinces. Tables 3.4 and 3.14, therefore, show the Ontario results as a proportion of or ratio to the national results.

In brief, the Ontario economy is projected to grow during the 1980s at a rate somewhat below the national average - not so much because Ontario is doing poorly but because the West is doing well, pulling up the national average. A combination of excellent resource endowments and unexploited opportunities whose time has come makes the latter the Canadian growth pole for the decade. Nevertheless, the Ontario economy undergoes only a small change in its relative position in Canada. Natural constraints on migration within the country plus Ontario's and the East's advantages of capital-in-place, transport systems, and proximity to markets make unlikely any larger shift in the centre of economic activity than is projected here.

The Ontario Economy 1982 - 1995

TABLE 3.4
The Ontario economy: summary

	Annual average				
	1967-73	1974-80	1981-3	1984-6	1987-90
Growth rate					
Real provincial product at factor cost	5.3	2.0	1.9	3.5	3.1
Deflator, provincial GDP	5.1	9.9	8.8	8.7	7.7
Employment	3.2	2.7	2.0	2.3	2.1
Real personal disposable income per capita	4.0	2.0	-0.0	0.4	1.4
Unemployment rate	4.2	6.4	7.4	6.1	4.9
As a percentage of national average					
Real provincial product	0.418	0.403	0.388	0.385	0.381
Nominal provincial product	0.416	0.388	0.369	0.364	0.360
Productivity (GDP/employee)	1.09	1.05	1.02	1.02	1.02
Employment	0.382	0.385	0.380	0.377	0.374
Real personal disposable income per capita	1.15	1.09	1.07	1.05	1.02

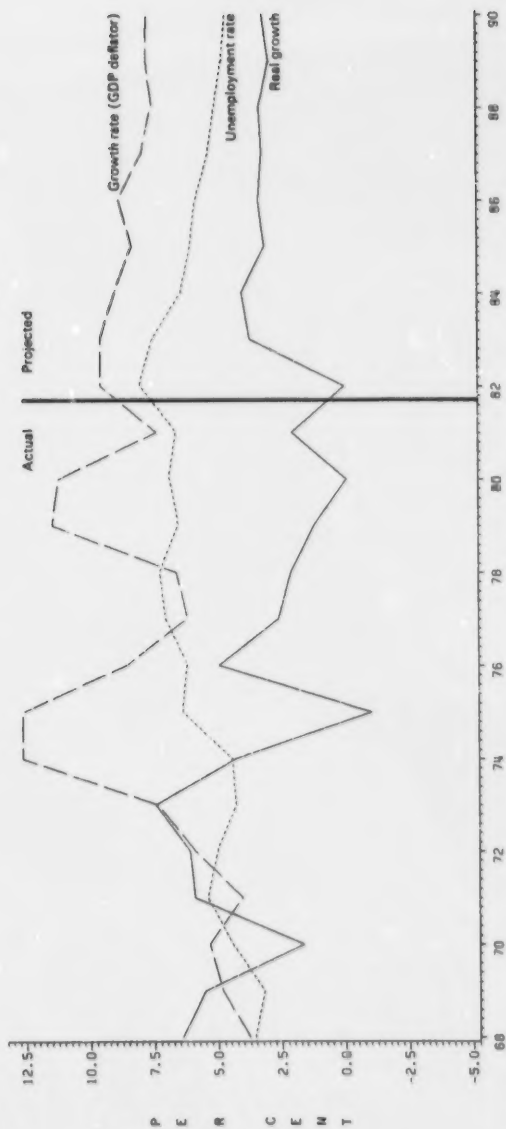
Especially during the first half of the 1980s, the terms of trade continue to shift adversely for Ontario - that is, the prices of Ontario's products are not projected to rise as fast as those of certain of the West's products, especially energy products. Thus, Ontario's income share declines somewhat more than its share of real output. Ontarians' real disposable income, for example, is projected to continue to move closer to the national average, although it remains somewhat above it at the end of the decade. Provincial productivity also moves closer to the national average, as already noted, and the Ontario unemployment rate falls gradually with the national rate.

Real growth

Tables 3.5 and 3.6 and Figures 3.11 through 3.13 give a closer look at Ontario's real growth, contrasting it with the history of and projections for growth in all Canada and in other regions.⁸ (Table 3.15 at the end of the

⁸ This study concentrates most closely on the Ontario economy. The results presented for other individual provinces should, therefore, be considered less precise.

Figure 3.10
The Ontario economy: summary



The Ontario Economy 1982 - 1995

TABLE 3.5

Real growth rate by province/region (real GDP at factor cost)

	Annual averages				
	1967-73	1974-80	1981-3	1984-6	1987-90
Ontario	5.3	2.0	1.9	3.5	3.1
Canada	5.2	2.9	2.4	3.7	3.5
East	4.8	2.8	2.1	3.4	3.2
Quebec	4.9	2.9	2.1	3.4	3.2
West	5.6	4.4	3.6	4.5	4.4
Alberta	6.7	5.8	4.4	5.0	5.1

NOTE: See note to Table 3.1.

TABLE 3.6

Shares of real and nominal output by province/region

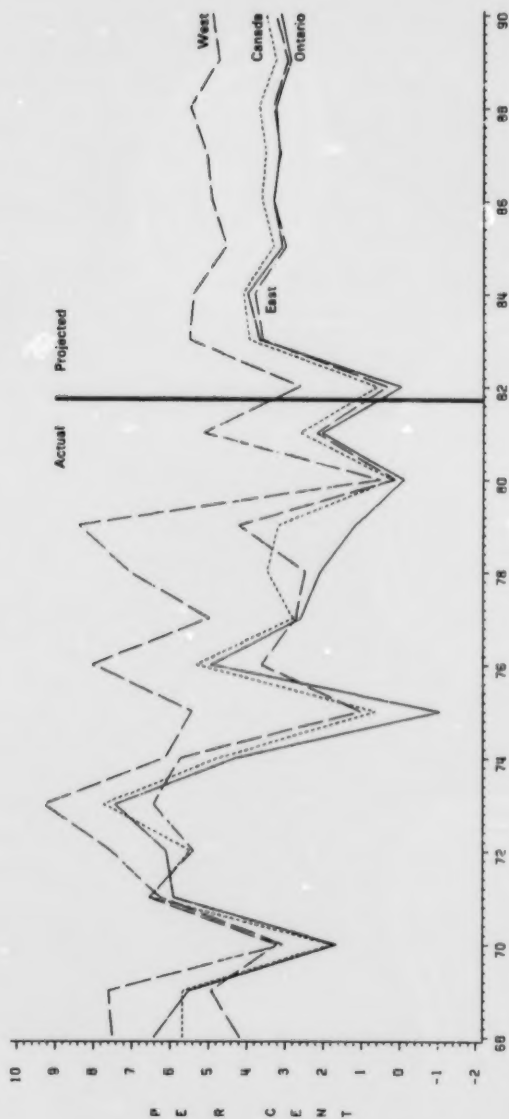
	Annual averages				
	1967-73	1974-80	1981-3	1984-6	1987-90
Real GDP					
Ontario	0.42	0.40	0.39	0.39	0.38
East	0.30	0.30	0.29	0.29	0.29
Quebec	0.24	0.24	0.23	0.23	0.23
West	0.24	0.25	0.27	0.28	0.29
Alberta	0.09	0.10	0.12	0.12	0.13
Nominal GDP					
Ontario	0.42	0.39	0.37	0.36	0.36
East	0.31	0.29	0.28	0.27	0.27
Quebec	0.25	0.23	0.22	0.22	0.22
West	0.23	0.27	0.31	0.32	0.33
Alberta	0.08	0.12	0.15	0.16	0.16

NOTE: See note to Table 3.1.

chapter gives year-by-year detail.) Clearly, growth in the West leads, with Alberta in the vanguard, although the gap between the growth rates of Alberta and the other two western provinces is projected to narrow from that of the later 1960s and 1970s.

Looking in the opposite direction, the 1980s' growth in the East is projected to be slightly above that in Ontario, except in the mid-1980s when

Figure 3.11
Real growth rates by region



NOTE: See note to Figure 3.1.

Figure 3.12
Real growth rate by province

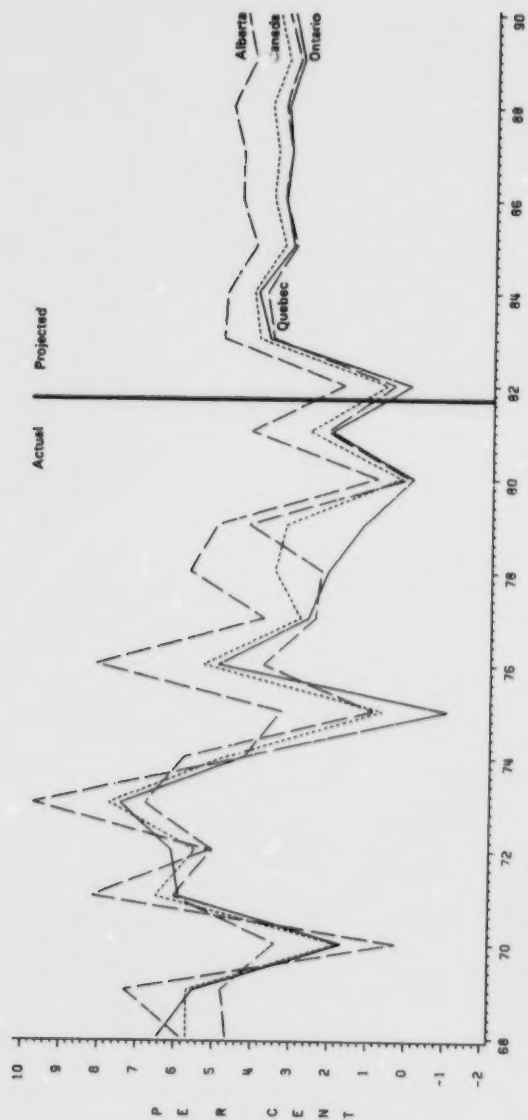
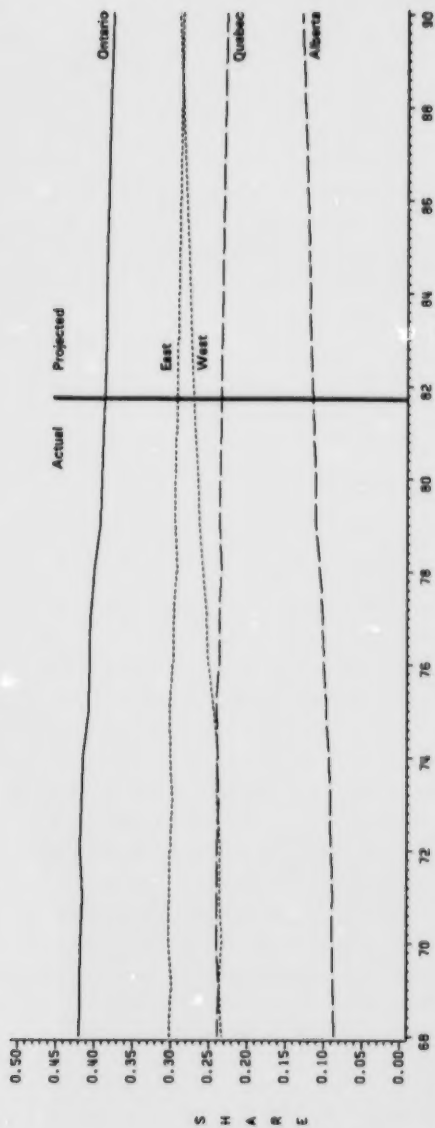


Figure 3.13
Shares of real output by provinces/region



NOTE: See note to Figure 3.1.

investment growth is very high. The difference between Ontario's and the East's growth rates is, however, much smaller than it was during the 1974-80 period, when the Ontario economy was more sensitive to cyclical downturns and the economies of the East were partly boosted by their own mega-projects - especially the James Bay hydro development.

The net result of lower growth in Ontario and the East is the reduction of their real output shares, while those of the West rise. By 1987-90, the share of the three western provinces becomes equal to that of the five easternmost, although the Ontario share remains larger than either.

These projected shifts are certainly not drastic; in fact, they are less than those of some gloomy forecasts. Is such 'conservatism' reasonable? As already discussed, the chief constraint on more rapid shifts of real output shares seems to be the rates of internal migration. Yet the projections used here assume rather a high level of westward migration, and the real output shifts that occur are enough to leave unemployment rates quite low in the western provinces by the end of the decade.⁹ It is possible that greater relative productivity improvements in the West would allow more output to be shifted there without creating an excessive demand for labour, but the assumptions include some productivity swing westwards in many industries, and the same equilibrating factors that have operated to narrow the productivity gap in eastern Canada will be at work preventing the opening of a major productivity gap between East and West. So, a much greater shift westwards of real output shares appears unlikely during the 1980s.

Table 3.7 illustrates this point with selected figures for Ontario and Alberta. Between 1980 and 1990, the latter's source population for the labour force is projected to grow at almost 3.4 per cent per year - three times the rate for Ontario - with in-migrants accounting for at least two-thirds of the increase. The Alberta unemployment rate is already low at 3.7 per cent in 1980; it is projected to fall to 3.3 per cent by 1990. If it fell to 3.0 per cent or less, indicating a large excess demand for labour, then new firms might be discouraged from settling in the province. So despite the projections of a relatively large rate of population growth and a very low unemployment rate,

9 Recall that, as discussed in Chapter 2, the 'full-employment' unemployment rate must be considerably above zero since some individuals are always in the process of job search and others inevitably have skills that are mismatched with the available jobs. Measured unemployment rates below 3 or 3.5 per cent actually indicate considerable labour shortages.

TABLE 3.7
Output and population: Ontario and Alberta

Ontario		Alberta
	1980	
0.391	Real GDP share	0.111
6.9	Unemployment rate	3.7
0.363	Source population share	0.085
	1981-90	
1.09	Average annual growth in labour force source population	3.36
	1990	
0.378	Real GDP share	0.130
4.6	Unemployment rate	3.3
0.359	Source population share	0.104

Alberta's real output share only increases by about 2 percentage points.

Nominal output growth

In looking at a national economy, researchers now pay little attention to growth in nominal (current-dollar) GNP. Interest focusses instead on real-GNP growth, as a measure of the increase of output, and on the rate of change of the GNP deflator, as an indicator of inflation. But between provinces - and indeed between countries - rates of nominal output growth are more important since it is nominal output (the amount of output times its price) that is available to be translated into income. Of course, a higher level of nominal output is not necessarily translated into higher income, especially higher personal income; the translation depends on the government's spending and taxation policies and on how the private sector distributes profits. A notable example of the distinction between real and nominal output is found in the members of the Organization of Petroleum Exporting Countries. During the past ten years, many OPEC nations have not greatly increased their real output - as measured in, say, barrels of oil or their 1971-dollar equivalents. Yet because of the relative increase in the price of petroleum, the nominal output and incomes of these nations have increased several fold.

The same phenomenon has occurred in Canada on a much smaller scale

and is projected to continue, especially during the first half of the decade as the country moves closer to world oil prices. Put otherwise, the terms of trade - the price of what is produced relative to what is bought - are shifting in favour of the West, especially Alberta.

As shown in Figure 3.14 (see also Tables 3.4 and 3.6 and Figure 3.15), Ontario's shares of real and nominal output were almost equal in the 1967-73 period. Thereafter, its nominal share fell faster than its real share, a phenomenon found also in the East. This movement continues in the 1980s, although at a reduced rate. By the last years of the decade, the nominal output share of the West is almost equal to that of Ontario and well above that of the East - a considerable contrast with the pattern of real output shares at the end of the decade.

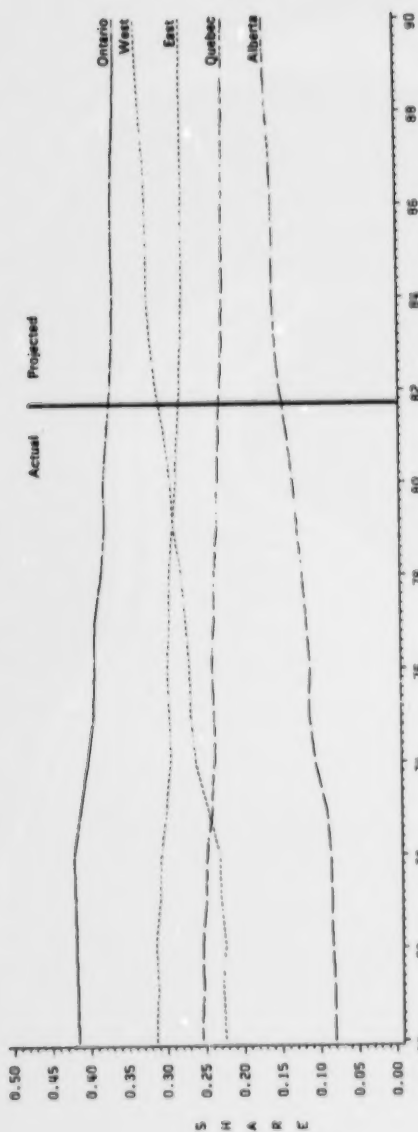
Note from Tables 3.4 and 3.15 that Ontario's GDP deflator is well below that of Canada as a whole during the early 1980s. This is not an indication of Ontarians' enjoying relatively lower inflation in consumer-goods prices;¹⁰ it is simply a reflection of the shifting terms of trade. The prices of those goods in which Ontario specializes (for example, automobiles, transportation machinery, and steel) are projected to grow more slowly than the prices of goods produced elsewhere - most notably oil, gas and coal.

Employment and unemployment

As we saw in Chapter 2, the Canadian unemployment rate is projected to fall during the decade, partly because the early 1980s high degree of slack is gradually reduced and partly because the 'full-employment' unemployment rate is itself projected to decline so that lower measured unemployment rates indicate the same degree of slack (for reducing inflation). Table 3.8 and Figure 3.16 give a closer look at the employment and unemployment projection for Ontario, plus national and regional comparisons. Tables 3.16 and 3.17 at the end of the chapter provide detailed breakdowns. In the late 1970s and early 1980s, the degree of labour-market slack was relatively high in the East and in Ontario, so it is not surprising that unemployment rates are projected to fall more there than in the West, especially in Alberta. Between the

10 Indeed, Canada has relatively little regional variation in consumer-price inflation in the long run, and we have made no attempt to project it; for all provinces, real disposable income has been deflated by the national consumer price index.

Figure 3.14
Shares of nominal output by province/region



NOTE: See note to Figure 3.1.

Figure 3.15
Shares of nominal and real output, Ontario and Alberta

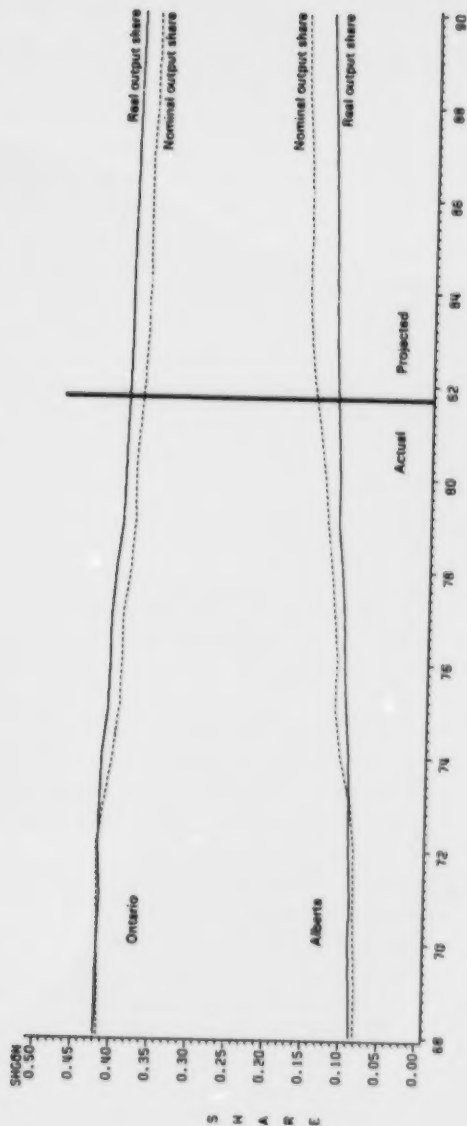


TABLE 3.8
The unemployment rate by province/region

	Annual average				
	1967-73	1974-80	1981-3	1984-6	1987-90
Ontario	4.2	6.4	7.4	6.1	4.9
Canada	5.2	7.3	8.0	6.9	6.0
East	6.4	9.6	10.8	9.7	8.6
Quebec	6.4	9.1	10.5	9.1	7.9
West	5.2	5.8	5.6	4.9	4.5
Alberta	4.4	4.0	4.1	3.5	3.4

NOTE: See note to Table 3.1.

1981-83 and 1987-90 periods (see Table 3.8), they fall by about 2.5 percentage points in Ontario and Quebec, but by less than 1 percentage point in Alberta.

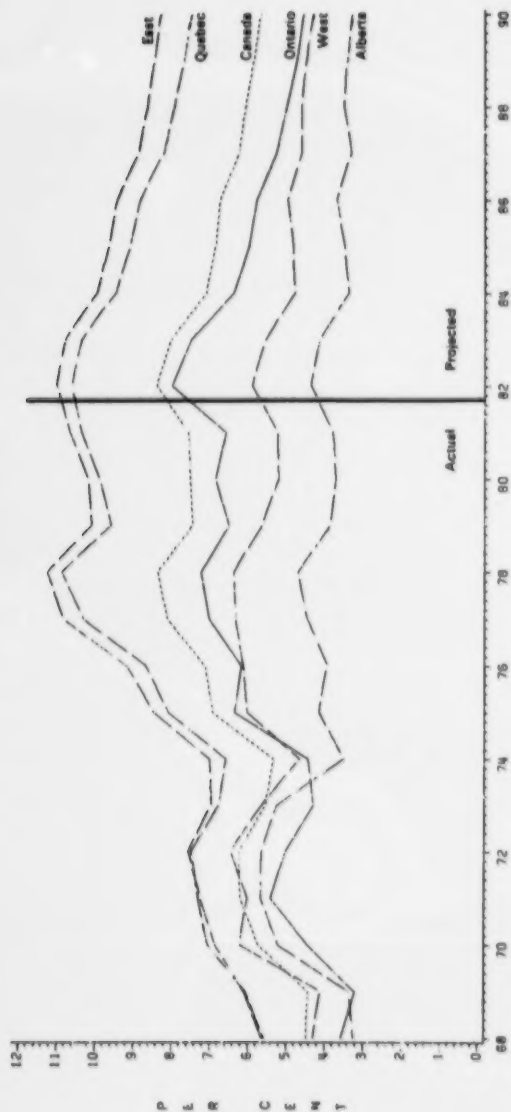
Interestingly, the fall in Ontario is projected to result more from employment growth and less from reduced labour-force growth than it is in Quebec. In the latter province, the baby boom ended earlier than in the rest of Canada, so during the 1980s, the growth rate of its source population is well below the national rate, helping to move its unemployment rate downwards. Employment growth in Ontario is based on a recovery from the 1981-2 recession and, to some extent, on a further narrowing of the productivity differential between Ontario and Canada as a whole. (Lower productivity growth in Ontario at least has the advantage that a given increase in output creates relatively more jobs - even if they pay relatively less.)

Personal income

The model used to project the Ontario economy yields approximations of provincial incomes and personal incomes, although these figures must be considered even more tentative than many of our other projections.

The discussion here focusses on real personal disposable income per capita, with the nominal projection reduced to real terms by dividing by the national CPI in all provinces. A summary of results is given in Table 3.9 and Figure 3.17. (More detailed, year-by-year results are in Table 3.18 at

Figure 3.16
The unemployment rate by province/region



NOTE: See note to Figure 3.1.

the end of the chapter.)

It can be seen that real incomes are projected to grow only slowly throughout the 1980s - an inevitable consequence of relatively low real growth in the economy and of a gradual switch away from personal and foreign saving coupled with a high level of capital formation. Increased retention of corporate profit (for investment) and a reduction in the aggregate government deficit (especially via higher indirect taxation) also lead to relatively low growth in real personal income.

Rising oil and gas prices and the distribution of the resulting additional revenues, of course, have been and are a leading factor in this income-saving shift. Therefore, again not surprisingly, the projection shows continued relative movements across provinces in real personal income per capita. Table 3.9 and Figure 3.17 show that real personal incomes in Ontario were considerably above those of the nation as a whole through the end of the 1970s, although the gap did begin to narrow, especially against the West. In the 1980s, real personal incomes in the West, particularly Alberta, become relatively higher than those in Ontario. But note that even at the end of the decade, the ratio of Alberta's personal income to the national average (1.16) is about the same as the Ontario/Canada ratio of 1967-73 (1.15). Note also that the gap in personal incomes between the East and the national average is projected to close somewhat. This healthy result comes from the relatively low population growth in Quebec and the migrations from the Atlantic provinces.

The movement of Ontario personal income towards the national average has two major sources. The first is a gradual reduction in the formerly high level of the province's labour productivity relative to the Canadian average. The second is the terms-of-trade shift in favour of certain products, most notably mineral fuels, of which Ontario is a net importer. Figure 3.18 shows that the trends in the Ontario/Canada personal-income and productivity ratios have been downwards and are projected to continue so. It is the shift in the terms of trade that makes the personal-income ratio fall faster than the productivity ratio.

Output and employment: industrial detail

Much of Chapter 2's discussion of industrial detail at the national level also applies to Ontario - as do its caveats concerning the precision of individual

TABLE 3.9

Real personal disposable income per capita:
ratio of provincial/regional to national

	Annual average				
	1967-73	1974-80	1981-3	1984-6	1987-90
Ontario	1.15	1.09	1.07	1.05	1.02
East	0.86	0.87	0.87	0.89	0.90
Quebec	0.90	0.91	0.92	0.93	0.94
West	1.01	1.06	1.08	1.08	1.10
Alberta	1.00	1.05	1.12	1.14	1.16

NOTE: See note to Table 3.1.

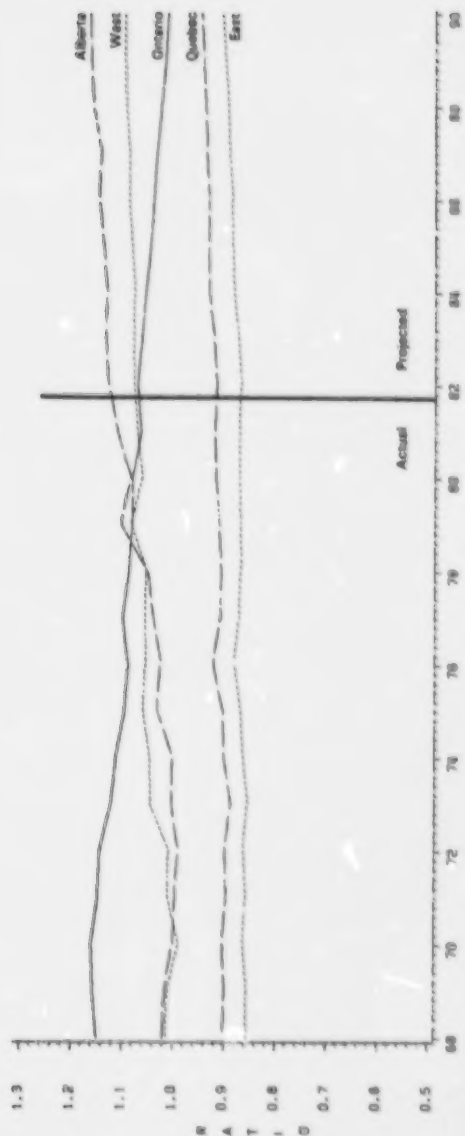
industrial projections. More results at the provincial level are summarized in Tables 3.10 and 3.11 and Figures 3.19 and 3.20; detailed breakdowns are in Tables 3.19 and 3.20 at the end of the chapter.

For the major industrial aggregates, Ontario's pattern is like Canada's. Output growth in its goods industries kept pace with growth in the service sector in the late 1960s and early 1970s, but in the later 1970s almost all its output growth was in services. During the 1980s, the goods sector is projected to recover somewhat, but its contribution to growth remains less than half that of services.

The pattern is still clearer for industry-by-industry employment. Even during the 1967-73 period, the bulk of employment creation was in the service sector, and the trend grew in the later 1970s. The projection has the greater part of the jobs created in the 1980s also falling within services. Indeed, manufacturing's combination of relatively low output growth and a slight rebound in labour productivity results in no net job creation in that sector during the 1980s.

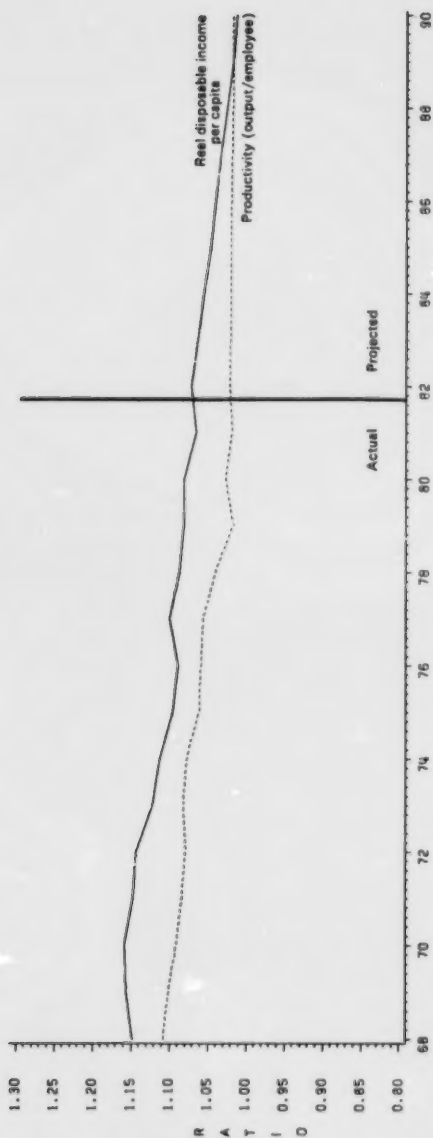
Among the 1980s' growth rates of the individual manufacturing industries, the greatest is projected for machinery and other transportation equipment, reflecting supply to major development projects. (The growth rate projected for primary metals may be too low; major projects usually require considerable inputs of primary metal, and Ontario seems to have many opportunities for exporting steel to international markets.) Note, too, that while Ontario's share of construction is projected to drop considerably during the 1980s, the industry's growth rate remains a respectable 2.2 per cent per

Figure 3.17
Real personal income: ratio of provincial/regional to national



NOTE: See note to Figure 3.1.

Figure 3.18
Ontario's productivity and real income: ratios to Canada's



The Ontario Projection

TABLE 3.10
Ontario's real output by industry: summary

	Annual average		
	1967-73	1974-80	1981-90
<u>Growth rate</u>			
Agriculture, fishing, & trapping	0.5	1.9	1.2
Forestry	2.3	0.6	2.7
Other mines & quarries	4.5	-3.5	-3.6
Food, feed, beverages, & tobacco	4.0	1.3	1.4
Textiles & clothing	8.3	1.7	-0.0
Wood & furniture	3.3	0.2	0.4
Paper, printing, & allied industries	4.0	2.1	0.9
Primary metal & metal fabricating	3.8	1.1	1.1
Motor vehicles & parts	2.0	-1.5	1.0
Machinery & other transportation equipment	11.8	2.6	3.1
Electrical products	6.0	0.2	3.1
Chemical, rubber, & petroleum products	7.6	2.5	2.9
Nonmetallic mineral products	5.9	-2.2	1.7
Other manufacturing industries	4.4	2.0	-0.5
Total manufacturing	5.7	1.0	1.4
Construction	3.5	-1.4	2.2
Electric power, water, & gas utilities	8.4	4.0	4.6
Total goods-producing industries	5.2	0.7	1.7
Transportation & storage	6.7	1.8	2.0
Communication	7.7	8.2	7.3
Trade	5.7	1.9	2.5
Finance, insurance, & real estate	5.7	4.6	3.8
Other service industries	5.7	5.4	4.6
Total service industries	5.9	4.1	3.9
Government sector	3.6	-1.9	1.3
Total: all sectors	5.3	2.0	2.9
<u>Share of Ontario output</u>			
Agriculture, fishing, & trapping	0.020	0.017	0.015
Forestry	0.003	0.002	0.002
Other mines & quarries	0.016	0.011	0.006
Food, feed, beverages, & tobacco	0.036	0.032	0.030
Textiles & clothing	0.014	0.014	0.013
Wood & furniture	0.009	0.009	0.007
Paper, printing, & allied industries	0.031	0.028	0.027
Primary metal & metal fabricating	0.060	0.054	0.050
Motor vehicles & parts	0.041	0.039	0.034
Machinery & other transportation equipment	0.026	0.029	0.028
Electrical products	0.027	0.026	0.023
Chemical, rubber, & petroleum products	0.034	0.036	0.038
Nonmetallic mineral products	0.011	0.010	0.008

TABLE 3.10 (continued)

	Annual average		
	1967-73	1974-80	1981-90
Other manufacturing industries	0.015	0.014	0.012
Total manufacturing	0.304	0.292	0.269
Construction	0.058	0.048	0.043
Electric power, water, & gas utilities	0.025	0.028	0.033
Total goods-producing industries	0.425	0.398	0.369
Transportation & storage	0.049	0.049	0.047
Communication	0.026	0.037	0.054
Trade	0.116	0.119	0.115
Finance, insurance, & real estate	0.124	0.138	0.157
Other service industries	0.122	0.145	0.169
Total service industries	0.436	0.488	0.542
Government sector	0.138	0.114	0.089

year - just a little below the province-wide average. In other words, Ontario's share drops not so much because of reduced activity in the province as because of increased activity in the West. However, the projection of 3.8 per cent growth in employment creation for construction is almost surely too high in relation to its output growth. This result partly reflects the low cyclical trough in which the reference period begins and partly an over-pessimistic projection of productivity decline in the sector (although there was also a decline in the 1974-80 period).

The two predecessors of this study (Foot et al. 1977; Sawyer, Dungan and Winder 1978) projected that the service sectors would tend to dominate future growth in output and especially employment. Of all the projections made in those studies, this is the one proven most accurate by events, and it seems among the safest projections to make for the 1980s.

Figure 3.19
Ontario's shares of output by industrial aggregate

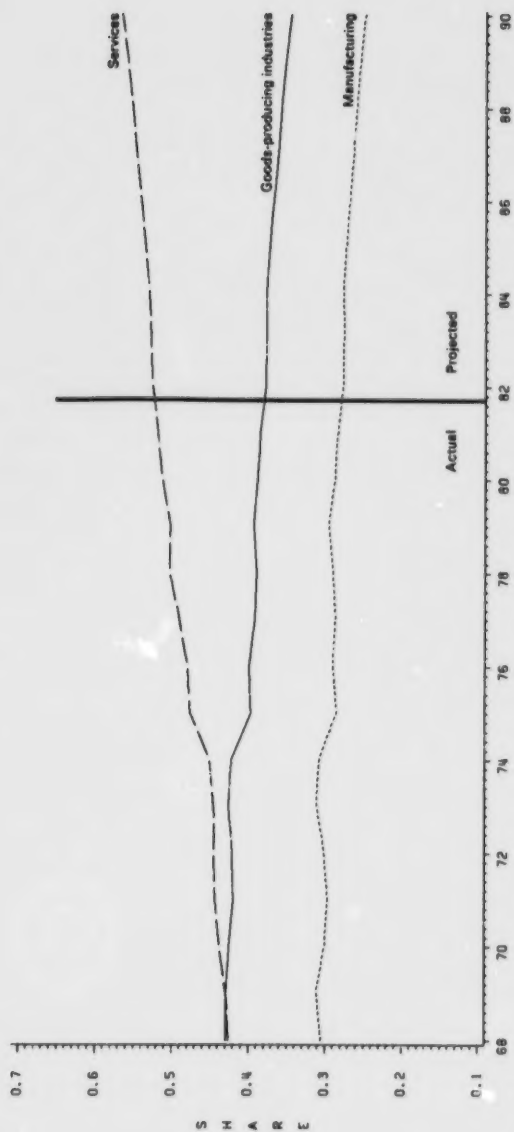


Figure 3.26
Ontario's employment by industrial aggregate

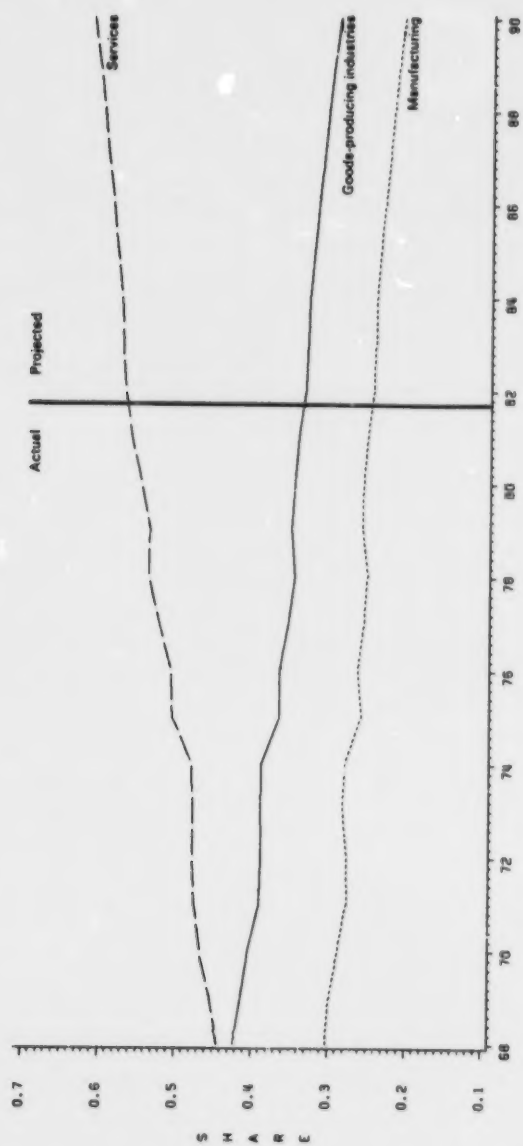


TABLE 3.11
Ontario's employment by industry: summary

	Annual average		
	1967-73	1974-80	1981-90
<u>Growth rate</u>			
Agriculture, fishing, & trapping	-1.2	1.2	-2.8
Forestry	-4.0	1.4	2.5
Other mines & quarries	3.0	1.6	-0.2
Food, feed, beverages, & tobacco	1.1	1.9	0.8
Textiles & clothing	2.9	1.4	-2.0
Wood & furniture	1.4	0.2	-1.4
Paper, printing, & allied industries	1.0	2.5	0.1
Primary metal & metal fabricating	1.7	1.4	0.4
Motor vehicles & parts	3.5	-1.5	1.3
Machinery & other transportation equipment	0.8	3.9	-0.2
Electrical products	2.0	0.4	-0.5
Chemical, rubber, & petroleum products	1.2	3.3	1.0
Nonmetallic mineral products	2.0	-0.3	1.2
Other manufacturing industries	3.5	0.7	-2.0
Total manufacturing	1.8	1.4	0.0
Construction	2.3	-0.8	3.8
Electric power, water, & gas utilities	3.4	2.8	2.7
Total goods-producing industries	1.5	1.1	0.4
Transportation & storage	1.8	1.5	0.2
Communication	4.0	3.9	3.4
Trade	3.9	2.9	2.2
Finance, insurance, & real estate	5.0	5.8	3.2
Other service industries	5.5	6.6	4.5
Total service industries	4.4	4.7	3.4
Government sector	4.4	-0.6	0.8
Total: all sectors	3.2	2.7	2.2
<u>Share of Ontario employment</u>			
Agriculture, fishing, & trapping	0.042	0.032	0.023
Forestry	0.004	0.003	0.003
Other mines & quarries	0.009	0.008	0.006
Food, feed, beverages, & tobacco	0.034	0.030	0.028
Textiles & clothing	0.022	0.020	0.017
Wood & furniture	0.011	0.010	0.008
Paper, printing, & allied industries	0.028	0.024	0.023
Primary metal & metal fabricating	0.052	0.047	0.042
Motor vehicles & parts	0.027	0.026	0.022
Machinery & other transportation equipment	0.032	0.029	0.027
Electrical products	0.030	0.026	0.021
Chemical, rubber, & petroleum products	0.024	0.022	0.022

The Ontario Economy 1982 - 1995

TABLE 3.11 (continued)

	Annual average		
	1967-73	1974-80	1981-90
Nonmetallic mineral products	0.009	0.008	0.007
Other manufacturing industries	0.021	0.019	0.015
Total manufacturing	0.290	0.260	0.232
Construction	0.053	0.048	0.046
Electric power, water, & gas utilities	0.009	0.009	0.009
Total goods-producing industries	0.406	0.360	0.319
Transportation & storage	0.046	0.042	0.037
Communication	0.022	0.025	0.027
Trade	0.161	0.167	0.168
Finance, insurance, & real estate	0.052	0.059	0.068
Other service industries	0.182	0.226	0.286
Total service industries	0.462	0.519	0.586
Government sector	0.132	0.121	0.095



Table 3.12
Ontario's output shares by industry

	1977	1978	1979	1980	1981	1982	1983	1984
1 AGRICULTURE, FISHING & TRAPPING	0.223	0.225	0.241	0.231	0.230	0.228	0.226	0.224
2 FORESTRY	0.151	0.147	0.150	0.148	0.148	0.147	0.147	0.146
3 MINERAL FUEL MINES & WELLS	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
4 OTHER MINES & QUARRIES	0.156	0.208	0.186	0.180	0.183	0.177	0.170	0.163
5 FOOD, FEED, BEVERAGES & TOBACCO	0.480	0.426	0.424	0.424	0.424	0.423	0.423	0.423
6 TEXTILES & CLOTHING	0.380	0.376	0.377	0.378	0.382	0.385	0.387	0.390
7 WOOD & FURNITURE	0.243	0.230	0.226	0.225	0.221	0.218	0.215	0.211
8 PAPER PRINTING & ALLIED INDUSTRIES	0.398	0.387	0.385	0.386	0.385	0.385	0.384	0.384
9 PRIMARY METAL & METALLURGICAL FABRICATING	0.607	0.578	0.577	0.577	0.576	0.575	0.574	0.573
10 MOTOR VEHICLES & PARTS	0.920	0.888	0.888	0.886	0.883	0.881	0.878	0.875
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	0.582	0.572	0.571	0.570	0.569	0.568	0.566	0.565
12 ELECTRICAL PRODUCTS	0.671	0.678	0.680	0.678	0.678	0.677	0.677	0.676
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	0.565	0.564	0.562	0.561	0.559	0.557	0.555	0.553
14 NON-METALLIC MINERAL PRODUCTS	0.475	0.461	0.458	0.455	0.450	0.445	0.440	0.435
15 OTHER MANUFACTURING INDUSTRIES	0.668	0.650	0.650	0.650	0.651	0.651	0.652	0.652
TOTAL MANUFACTURING	0.539	0.527	0.523	0.518	0.518	0.516	0.516	0.517
16 CONSTRUCTION	0.288	0.288	0.266	0.272	0.267	0.262	0.257	0.252
17 ELECTRIC POWER, WATER & GAS UTILITIES	0.340	0.336	0.331	0.323	0.322	0.321	0.321	0.320
TOTAL GOODS-PRODUCING INDUSTRIES	0.420	0.412	0.406	0.401	0.398	0.395	0.393	0.392
18 TRANSPORTATION & STORAGE	0.327	0.320	0.322	0.322	0.321	0.321	0.321	0.321
19 COMMUNICATION	0.414	0.412	0.402	0.403	0.402	0.402	0.401	0.401
20 TRADE	0.386	0.384	0.375	0.371	0.371	0.369	0.368	0.367
21 FINANCE, INSURANCE & REAL ESTATE	0.439	0.439	0.433	0.433	0.431	0.429	0.428	0.427
22 OTHER SERVICE INDUSTRIES	0.408	0.412	0.408	0.408	0.403	0.401	0.400	0.400
TOTAL SERVICE INDUSTRIES	0.401	0.402	0.384	0.395	0.393	0.392	0.391	0.391
23 GOVERNMENT SECTOR	0.386	0.378	0.368	0.368	0.365	0.362	0.361	0.360
TOTAL: ALL SECTORS (SHARE OF REAL GDP AT FACTOR COST)	0.406	0.401	0.393	0.392	0.390	0.387	0.386	0.386

	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	0.223	0.221	0.219	0.217	0.216	0.214
2 FORESTRY	0.146	0.145	0.145	0.144	0.144	0.143
3 MINERAL FUEL MINES & WELLS	0.002	0.002	0.002	0.002	0.002	0.002
4 OTHER MINES & QUARRIES	0.157	0.151	0.145	0.139	0.133	0.127
5 FOOD, FEED, BEVERAGES & TOBACCO	0.423	0.423	0.422	0.422	0.422	0.421
6 TEXTILES & CLOTHING	0.392	0.395	0.398	0.400	0.403	0.405
7 WOOD & FURNITURE	0.208	0.204	0.201	0.198	0.195	0.191
8 PAPER, PRINTING & ALLIED INDUSTRIES	0.383	0.383	0.382	0.381	0.381	0.380
9 PRIMARY METAL & METAL FABRICATING	0.571	0.570	0.569	0.568	0.567	0.565
10 MOTOR VEHICLES & PARTS	0.872	0.869	0.866	0.863	0.860	0.857
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	0.563	0.562	0.560	0.558	0.557	0.555
12 ELECTRICAL PRODUCTS	0.675	0.675	0.674	0.673	0.672	0.672
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	0.351	0.349	0.347	0.345	0.343	0.340
14 NON-METALLIC MINERAL PRODUCTS	0.429	0.424	0.418	0.413	0.407	0.402
15 OTHER MANUFACTURING INDUSTRIES	0.653	0.653	0.654	0.654	0.655	0.655
TOTAL MANUFACTURING	0.516	0.515	0.514	0.512	0.510	0.507
16 CONSTRUCTION	0.247	0.242	0.237	0.232	0.228	0.221
17 ELECTRIC POWER, WATER & GAS UTILITIES	0.329	0.329	0.328	0.327	0.326	0.325
TOTAL GOODS-PRODUCING INDUSTRIES	0.390	0.387	0.384	0.380	0.377	0.373
18 TRANSPORTATION & STORAGE	0.321	0.321	0.321	0.320	0.320	0.320
19 COMMUNICATION	0.401	0.401	0.401	0.401	0.400	0.400
20 TRADE	0.366	0.365	0.364	0.363	0.362	0.361
21 FINANCE, INSURANCE & REAL ESTATE	0.427	0.426	0.426	0.425	0.424	0.424
22 OTHER SERVICE INDUSTRIES	0.399	0.399	0.398	0.397	0.397	0.396
TOTAL SERVICE INDUSTRIES	0.391	0.391	0.390	0.390	0.389	0.389
23 GOVERNMENT SECTOR	0.359	0.358	0.358	0.357	0.356	0.355
TOTAL: ALL SECTORS (SHARE OF REAL GDP AT FACTOR COST)	0.385	0.384	0.383	0.381	0.380	0.378

NOTE: For each industry, shares across all provinces total one

Table 3.13

The Ontario economy: summary by year

	1977	1978	1979	1980	1981	1982	1983	1984
PROVINCIAL GROSS DOMESTIC PRODUCT	83087	80130	101584	112685	125815	138800	158552	178928
REAL PROVINCIAL GDP AT FACTOR COST	43676	44595	45130	45081	45016	45015	47720	49640
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	1.86	1.77	1.88	2.20	2.26	2.58	2.83	3.08
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	4.062	4.089	4.118	4.121	4.024	3.975	4.032	4.071
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	12.107	12.776	14.535	16.001	17.438	19.328	21.073	22.802
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	11.758	11.584	11.239	11.088	10.982	10.856	11.052	11.191
LABOUR FORCE ('000)	3895	4147	4288	4266	4482	4565	4669	4738
EMPLOYMENT ('000)	3714	3846	4008	4086	4186	4200	4318	4436
UNEMPLOYMENT RATE (%)	7.02	7.25	6.52	6.87	6.39	8.01	7.52	6.40
REAL DOMESTIC PRODUCT - MANUFACTURING	12519	12836	13250	12864	13067	12764	12203	13766
BDP - GOODS-PRODUCING INDUSTRIES	17153	17284	17785	17542	17772	17438	18037	18760
BDP - SERVICE INDUSTRIES	21446	22451	22689	23158	23818	24227	25260	26383
PROVINCIAL GROSS DOMESTIC PRODUCT	18875	18886	19887	19888	19889	19900		
REAL PROVINCIAL GDP AT FACTOR COST	201014	226118	252016	278848	308280	344026		
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	3.24	3.64	3.82	4.22	4.54	4.89		
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	4.060	4.082	4.124	4.201	4.242	4.307		
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	24.623	26.602	28.751	30.854	33.033	35.229		
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	11.300	11.445	11.570	11.702	11.789	11.902		
LABOUR FORCE ('000)	4818	4807	4882	5074	5168	5272		
EMPLOYMENT ('000)	4530	4622	4716	4819	4923	5031		
UNEMPLOYMENT RATE (%)	6.01	5.80	5.28	5.02	4.75	4.59		
REAL DOMESTIC PRODUCT - MANUFACTURING	14010	14273	14460	14712	14861	14950		
BDP - GOODS-PRODUCING INDUSTRIES	19145	19532	19884	20292	20567	20782		
BDP - SERVICE INDUSTRIES	27473	28686	28963	31261	32546	34069		

NOTE: Nominal values in millions of current dollars;
real values in millions of 1971 dollars.

PERCENTAGE CHANGE

	1977	1978	1979	1980	1981	1982	1983	1984
PROVINCIAL GROSS DOMESTIC PRODUCT	9.24	8.50	12.72	10.82	11.74	11.03	13.41	12.88
REAL PROVINCIAL GDP AT FACTOR COST	2.61	2.11	1.20	-0.08	2.06	-0.00	3.71	4.02
DEFLATOR, PROV'L GDP AT FACTOR COST	6.18	6.60	11.44	11.20	7.36	9.55	9.56	8.89
REAL PERSONAL DISP. INCOME PER CAP.	1.73	0.87	0.73	0.31	-2.60	-1.21	1.43	0.86
ANNUAL WAGES & SALARIES PER EMPLOYEE	8.21	5.10	5.51	10.08	8.88	10.84	9.03	8.21
GDP AT FACTOR COST PER EMPLOYEE	0.73	-1.40	-2.89	-1.51	-0.88	-0.33	0.88	1.26
LABOUR FORCE EMPLOYMENT	2.80	3.81	3.40	1.82	2.65	1.86	2.26	1.50
UNEMPLOYMENT RATE (%) *	1.87	2.95	4.21	1.45	2.95	0.33	2.80	2.73
	0.85	0.23	-0.73	0.34	-0.27	1.41	-0.48	-1.12
REAL DOMESTIC PRODUCT - MANUFACTURING	1.20	2.33	3.20	-2.89	0.78	-2.32	3.44	4.37
ROP - GOODS-PRODUCING INDUSTRIES	0.89	1.40	2.25	-1.37	1.21	-1.88	3.43	4.51
ROP - SERVICE INDUSTRIES	5.01	4.68	1.06	2.07	3.28	1.30	4.26	4.45
PROVINCIAL GROSS DOMESTIC PRODUCT	12.32	12.48	11.45	10.68	10.81	11.20		
REAL PROVINCIAL GDP AT FACTOR COST	3.12	3.34	3.20	3.20	2.91	3.17		
DEFLATOR, PROV'L GDP AT FACTOR COST	8.32	8.82	7.91	7.51	7.73	7.68		
REAL PERSONAL DISP. INCOME PER CAP.	-0.25	0.54	1.02	1.88	0.87	1.53		
ANNUAL WAGES & SALARIES PER EMPLOYEE	7.89	8.04	8.07	7.32	7.06	6.65		
GDP AT FACTOR COST PER EMPLOYEE	0.97	1.28	1.10	1.14	0.74	0.95		
LABOUR FORCE EMPLOYMENT	1.70	1.81	1.53	1.85	1.85	2.01		
UNEMPLOYMENT RATE (%) *	2.12	2.04	2.08	2.13	2.18	2.19		
	-0.28	-0.31	-0.51	-0.26	-0.28	-0.16		
REAL DOMESTIC PRODUCT - MANUFACTURING	1.77	1.87	1.31	1.78	1.00	0.60		
ROP - GOODS-PRODUCING INDUSTRIES	2.08	2.13	1.89	2.08	1.26	1.10		
ROP - SERVICE INDUSTRIES	4.13	4.45	4.42	4.33	4.11	4.68		

NOTE: * indicates change in levels.

Table 3.14
Ontario's economy: ratio to Canada's

	1977	1978	1979	1980	1981	1982	1983	1984
GROSS DOMESTIC PRODUCT								
REAL GDP AT FACTOR COST	0.391	0.382	0.377	0.378	0.374	0.369	0.366	0.364
DEFLATOR, GDP AT FACTOR COST	0.406	0.401	0.393	0.392	0.390	0.387	0.386	0.386
	0.948	0.938	0.939	0.942	0.934	0.926	0.920	0.918
REAL PERSONAL DISPOSABLE INCOME PER CAP.								
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	1.100	1.087	1.082	1.081	1.085	1.071	1.064	1.066
GDP AT FACTOR COST PER EMPLOYEE	1.083	1.058	1.038	1.050	1.040	1.040	1.037	1.034
	1.065	1.039	1.017	1.027	1.019	1.022	1.021	1.021
LABOUR FORCE								
EMPLOYMENT	0.380	0.381	0.382	0.378	0.379	0.377	0.376	0.375
UNEMPLOYMENT RATE (DIFFERENCE)	0.385	0.366	0.287	0.382	0.382	0.379	0.378	0.378
	-1.096	-1.129	-0.847	-0.865	-0.863	-0.407	-0.923	-0.716
REAL DOMESTIC PRODUCT - MANUFACTURING								
ROP - GOODS-PRODUCING INDUSTRIES	0.539	0.527	0.523	0.518	0.518	0.516	0.516	0.517
ROP - SERVICE INDUSTRIES	0.420	0.412	0.406	0.401	0.398	0.393	0.393	0.392
	0.401	0.402	0.394	0.395	0.393	0.382	0.381	0.381

	1985	1986	1987	1988	1989	1990
GROSS DOMESTIC PRODUCT						
REAL GDP AT FACTOR COST	0.265	0.265	0.263	0.260	0.259	0.258
DEFLATOR, GDP AT FACTOR COST	0.919	0.921	0.921	0.917	0.917	0.919
REAL PERSONAL DISPOSABLE INCOME PER CAP.						
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	1.048	1.041	1.035	1.026	1.019	1.014
GDP AT FACTOR COST PER EMPLOYEE	1.031	1.030	1.028	1.026	1.025	1.023
	1.021	1.020	1.020	1.019	1.018	1.018
LABOUR FORCE						
EMPLOYMENT	0.374	0.373	0.372	0.370	0.369	0.367
UNEMPLOYMENT	0.377	0.376	0.375	0.374	0.373	0.372
UNEMPLOYMENT RATE (DIFFERENCE)	-0.004	-0.003	-0.003	-0.007	-0.004	-0.005
REAL DOMESTIC PRODUCT - MANUFACTURING						
ROP - GOODS-PRODUCING INDUSTRIES	0.516	0.515	0.514	0.512	0.510	0.507
ROP - SERVICE INDUSTRIES	0.390	0.387	0.384	0.380	0.377	0.373
	0.391	0.391	0.390	0.390	0.389	0.388

Table 3.15
Real output and output deflators by province

REAL GDP										
(MILLIONS OF 1971 DOLLARS)										
CANADA	1977	1978	1979	1980	1981	1982	1983	1984		
NEWFOUNDLAND	107489	111243	114812	115061	118064	118777	123488	128602		
PRINCE EDWARD ISLAND	1907	1454	1628	1586	1635	1648	1706	1767		
NOVA SCOTIA	288	304	311	308	313	315	325	326		
NEW BRUNSWICK	2584	2663	2710	2716	2764	2782	2861	2884		
QUEBEC	2022	2037	2102	2096	2137	2150	2228	2311		
ONTARIO	25428	26062	27168	27210	27811	27907	28921	30231		
MANITOBA	43676	44595	45130	45061	46016	46015	47720	48640		
SASKATCHEWAN	4320	4352	4372	4412	4488	4503	4667	4842		
ALBERTA	4081	4262	4271	4400	4544	4587	4804	5012		
BRITISH COLUMBIA	10866	11767	12759	12827	13487	13842	14509	15402		
YUKON & N.W.T.	12222	12825	13263	13325	13788	13834	14545	15179		
	266	269	283	281	283	283	291	298		
EXTERNAL & DISCREPANCY	99	618	815	800	800	800	800	800		
CANADA	132802	137741	142618	147921	152784	158245	163700	169200		
NEWFOUNDLAND	1821	1881	1941	2010	2068	2133	2200	2267		
PRINCE EDWARD ISLAND	345	356	367	379	388	401	413	426		
NOVA SCOTIA	3076	3180	3286	3400	3508	3627	3738	3851		
NEW BRUNSWICK	2386	2470	2555	2647	2733	2829	2928	3027		
QUEBEC	30639	31972	32887	34088	35110	36272	37440	38614		
ONTARIO	51187	52888	54593	56384	58037	59874	61722	63574		
MANITOBA	4894	5167	5342	5531	5707	5811	5911	6011		
SASKATCHEWAN	5197	5412	5625	5860	6077	6315	6560	6804		
ALBERTA	18106	18804	19766	18749	19647	20423	21200	22023		
BRITISH COLUMBIA	15746	16388	17037	17737	18487	19120	19834	20544		
YUKON & N.W.T.	304	311	318	326	332	340	348	356		
EXTERNAL & DISCREPANCY	800	800	800	800	800	800	800	800		

GDP DEFLATORS

(1971 = 1.0)

CANADA

NEWFOUNDLAND
PRINCE EDWARD ISLAND
NOVA SCOTIA
NEW BRUNSWICK
QUEBEC
ONTARIO
MANITOBA
SASKATCHEWAN
ALBERTA
BRITISH COLUMBIA
YUKON & N.W.T.

1977	1978	1979	1980	1981	1982	1983	1984
1.75	1.89	2.10	2.23	2.52	2.79	3.08	3.36
1.75	1.88	2.04	2.20	2.45	2.68	2.93	3.20
1.86	2.03	2.21	2.47	2.83	2.88	3.17	3.47
1.60	1.84	2.12	2.38	2.58	2.79	3.07	3.37
1.81	1.98	2.18	2.38	2.52	2.75	3.01	3.27
1.72	1.88	2.02	2.28	2.41	2.68	2.88	3.13
1.68	1.77	1.88	2.20	2.35	2.54	2.83	3.08
1.72	1.90	2.12	2.31	2.47	2.70	2.97	3.22
1.87	2.07	2.37	2.64	2.88	3.23	3.57	3.84
2.05	2.23	2.48	2.84	3.21	3.70	4.18	4.61
1.82	1.92	2.20	2.37	2.55	2.82	3.10	3.39
2.25	2.59	2.68	2.78	2.95	3.23	3.52	3.83

CANADA

NEWFOUNDLAND
PRINCE EDWARD ISLAND
NOVA SCOTIA
NEW BRUNSWICK
QUEBEC
ONTARIO
MANITOBA
SASKATCHEWAN
ALBERTA
BRITISH COLUMBIA
YUKON & N.W.T.

1985	1986	1987	1988	1989	1990
3.64	3.95	4.28	4.60	4.96	5.33
3.46	3.76	4.08	4.43	4.77	5.14
3.79	4.12	4.48	4.85	5.24	5.67
3.67	4.01	4.34	4.70	5.08	5.48
3.54	3.85	4.14	4.46	4.78	5.15
3.39	3.69	3.96	4.26	4.58	4.92
3.34	3.64	3.92	4.22	4.54	4.89
3.48	3.78	4.07	4.38	4.72	5.07
4.28	4.67	5.06	5.51	5.98	6.47
4.53	5.31	5.70	6.21	6.68	7.11
3.67	3.99	4.29	4.64	4.99	5.36
4.14	4.48	4.84	5.22	5.62	6.03

Table 3.15 continued

REAL GDP

(YEAR-OVER-YEAR PERCENTAGE CHANGE)

	1977	1978	1979	1980	1981	1982	1983	1984
CANADA	2.81	3.45	3.20	0.22	2.51	0.60	3.37	2.13
NEWFOUNDLAND	0.78	-0.84	8.88	-2.00	2.46	0.87	3.44	3.57
PRINCE EDWARD ISLAND	1.43	5.49	2.09	-0.88	1.85	0.64	3.11	3.22
NOVA SCOTIA	1.32	2.53	1.77	-0.33	1.77	0.67	3.53	3.57
NEW BRUNSWICK	1.23	0.77	3.19	0.33	1.96	0.63	3.64	3.72
QUEBEC	2.74	2.48	4.28	0.11	2.56	0.35	3.63	3.84
ONTARIO	2.51	2.11	1.20	-0.05	2.21	-0.00	3.71	4.02
MANITOBA	0.78	0.73	0.46	0.92	1.77	1.33	2.85	3.75
SASKATCHEWAN	1.75	4.20	0.21	3.01	3.27	1.14	5.51	4.32
ALBERTA	5.00	7.11	8.42	0.53	5.15	2.64	5.31	4.33
BRITISH COLUMBIA	3.37	4.94	3.41	0.47	3.47	1.06	4.38	4.36
YUKON & N.W.T.	8.83	1.11	5.08	-0.83	0.65	0.30	2.63	2.43
EXTERNAL & DISCREPANCY	25.48	521.11	31.85	-1.79	0.0	0.0	0.0	0.0
CANADA	3.24	3.54	3.54	3.72	3.29	3.17		
NEWFOUNDLAND	3.06	3.34	3.16	3.55	2.90	3.15		
PRINCE EDWARD ISLAND	2.90	3.08	3.08	3.12	2.82	3.13		
NOVA SCOTIA	3.11	3.37	3.33	3.47	3.3	3.44		
NEW BRUNSWICK	3.24	3.52	3.46	3.57	3.22	3.55		
QUEBEC	3.02	3.34	3.17	3.34	2.58	3.17		
ONTARIO	3.12	3.34	3.20	3.30	2.81	3.17		
MANITOBA	3.14	3.47	3.39	3.52	3.19	3.56		
SASKATCHEWAN	3.69	4.14	3.93	4.18	3.70	3.92		
ALBERTA	4.56	4.96	5.10	5.53	4.79	4.97		
BRITISH COLUMBIA	3.74	4.07	3.96	4.11	3.67	3.98		
YUKON & N.W.T.	2.08	2.25	2.25	2.43	1.82	2.24		
EXTERNAL & DISCREPANCY	0.0	0.0	0.0	0.0	0.0	0.0		

GDP DEFLATORS
(YEAR-OVER-YEAR PERCENTAGE CHANGE)

	1977	1978	1979	1980	1981	1982	1983	1984
CANADA	6.30	7.68	11.36	10.88	8.18	10.60	10.20	9.31
NEWfoundland	10.40	7.32	8.33	12.65	8.87	9.19	9.24	9.12
Prince Edward Island	4.62	9.15	9.08	11.83	5.48	8.50	9.78	9.63
Nova Scotia	8.04	7.91	9.13	11.52	7.20	10.20	10.19	9.73
New Brunswick	5.73	9.96	9.81	7.83	6.71	9.20	9.24	8.89
Quebec	4.83	7.73	9.16	11.15	7.16	9.33	9.24	8.99
Ontario	6.19	6.60	11.44	11.20	7.38	9.55	9.56	8.99
Manitoba	4.37	10.34	11.74	8.66	7.03	8.20	9.26	9.08
Saskatchewan	2.22	10.71	14.84	11.18	8.08	11.69	11.01	10.28
Alberta	9.56	8.76	11.40	14.26	12.82	15.40	12.69	10.38
British Columbia	7.19	5.44	14.14	7.85	7.66	10.50	10.15	9.22
Yukon & N.W.T.	17.50	15.04	3.65	3.97	5.98	9.51	9.14	8.88

	1985	1986	1987	1988	1989	1990
CANADA	8.12	8.63	7.85	7.96	7.77	7.53
NEWfoundland	8.34	8.64	7.79	9.33	7.74	7.55
Prince Edward Island	9.03	9.23	8.36	8.20	8.19	8.09
Nova Scotia	8.79	9.19	8.40	8.31	8.21	7.98
New Brunswick	8.28	8.58	7.69	7.54	7.56	7.48
Quebec	8.15	8.58	7.68	7.40	7.55	7.51
Ontario	8.32	8.82	7.91	7.91	7.73	7.69
Manitoba	8.20	8.55	7.69	7.63	7.67	7.62
Saskatchewan	8.79	9.06	8.29	8.88	8.50	8.22
Alberta	8.93	7.79	7.42	8.80	7.95	6.56
British Columbia	8.26	8.59	7.75	7.93	7.64	7.41
Yukon & N.W.T.	7.67	8.32	7.92	7.88	7.69	7.35

Table 3.18
Ontario's labour force and employment variables

	1977	1978	1979	1980	1981	1982	1983	1984
POPULATION								
SOURCE POPULATION	8354	8440	8503	8581	8680	8769	8858	8946
LABOUR FORCE	6210	6333	6438	6536	6616	6708	6789	6867
EMPLOYMENT	3898	4167	4288	4366	4482	4565	4609	4739
	3714	3846	4008	4084	4186	4200	4318	4436
PARTICIPATION RATE	64.33	65.48	66.39	66.79	67.72	68.08	68.77	69.01
UNEMPLOYMENT RATE	7.02	7.25	6.92	6.87	6.59	6.01	7.52	6.40
	1985	1986	1987	1988	1989	1990		
POPULATION								
SOURCE POPULATION	8022	8116	8198	8277	8354	8427		
LABOUR FORCE	6845	7022	7088	7162	7220	7284		
EMPLOYMENT	4819	4907	4982	5074	5168	5272		
	4530	4622	4718	4819	4923	5031		
PARTICIPATION RATE	68.39	69.86	70.19	70.65	71.58	72.38		
UNEMPLOYMENT RATE	6.01	5.80	5.29	5.03	4.79	4.39		

(YEAR-OVER-YEAR PERCENTAGE CHANGE)

1977 1978 1979 1980 1981 1982 1983 1984

POPULATION

SOURCE POPULATION

LABOUR FORCE

EMPLOYMENT

1.08 1.04 0.74 1.03 1.03 1.03 1.01 0.39
2.07 1.88 1.83 1.33 1.22 1.37 1.23 1.16
2.80 3.61 3.40 1.62 2.65 1.88 2.38 1.50
1.87 3.35 4.21 1.48 2.86 0.23 2.80 2.73

(YEAR-TO-YEAR CHANGE)

PARTICIPATION RATE

UNEMPLOYMENT RATE

0.48 1.15 1.11 0.20 0.94 0.34 0.68 0.24
0.85 0.23 -0.72 0.34 -0.27 1.41 -0.48 -1.12

(YEAR-OVER-YEAR PER-CENT CHANGE)

1985 1986 1987 1988 1989 1990

POPULATION

SOURCE POPULATION

LABOUR FORCE

EMPLOYMENT

0.86 0.33 0.30 0.86 0.62 0.78
1.14 1.11 1.08 0.91 0.81 0.88
1.70 1.81 1.53 1.89 1.85 2.01
2.12 2.04 2.08 2.13 2.15 2.19

(YEAR-TO-YEAR CHANGE)

PARTICIPATION RATE

UNEMPLOYMENT RATE

0.38 5.48 0.22 0.66 0.73 0.80
-0.39 -0.21 -0.51 -0.26 -0.38 -0.15

NOTE: Levels in thousands.

Table 3.17

Labour force and employment variables by province

	PARTICIPATION RATE									
	1977	1978	1979	1980	1981	1982	1983	1984		
CANADA	61.87	62.61	63.36	64.01	64.70	65.15	65.87	66.33		
NEWFOUNDLAND	50.72	51.71	52.66	53.08	53.20	54.14	55.11	55.61		
PRINCE EDWARD ISLAND	56.88	57.80	58.29	58.88	59.10	59.62	60.16	60.20		
NOVA SCOTIA	55.21	56.25	56.84	57.87	57.80	58.46	59.54	60.06		
NEW BRUNSWICK	53.74	55.01	55.34	55.89	56.71	57.23	58.10	58.44		
QUEBEC	56.88	58.70	60.05	61.04	61.27	62.21	63.41	64.17		
ONTARIO	64.23	65.48	66.59	66.79	67.73	68.08	68.77	69.01		
MANITOMA	61.73	63.08	63.72	64.82	65.07	65.45	66.19	66.48		
SASKATCHEWAN	61.52	61.95	62.56	62.88	63.42	63.58	64.36	64.54		
ALBERTA	57.03	58.18	58.24	70.33	71.72	71.47	71.85	71.80		
BRITISH COLUMBIA	61.93	62.61	62.72	63.86	64.67	64.85	65.11	65.13		
CANADA	1985	1986	1987	1988	1989	1990				
NEWFOUNDLAND	68.86	67.49	67.38	68.83	69.72	70.09				
PRINCE EDWARD ISLAND	56.31	57.08	57.36	58.57	59.58	60.68				
NOVA SCOTIA	60.95	61.49	61.85	62.68	63.38	64.16				
NEW BRUNSWICK	60.68	61.23	62.08	63.07	64.01	65.15				
QUEBEC	58.92	59.30	60.05	60.84	61.58	62.46				
ONTARIO	64.95	65.82	66.50	67.69	68.88	70.19				
MANITOMA	68.38	69.88	70.19	70.85	71.58	72.38				
SASKATCHEWAN	67.27	67.87	68.46	69.46	70.28	71.20				
ALBERTA	64.80	65.67	66.16	66.69	67.50	68.23				
BRITISH COLUMBIA	72.15	72.97	73.91	74.90	75.87	76.82				
	65.64	66.04	66.36	67.06	67.72	68.42				

LABOUR FORCE
(Thousands)

CANADA

NEWFOUNDLAND
PRINCE EDWARD ISLAND
PELW SCOTIA
NEW BRUNSWICK
QUEBEC
ONTARIO
MANITOWA
SASKATCHEWAN
ALBERTA
BRITISH COLUMBIA

1977	1978	1979	1980	1981	1982	1983	1984
1080.1	1088.2	1120.5	1152.3	1183.7	1209.4	1240.8	1263.2
181	189	207	213	219	226	234	239
48	50	53	54	54	55	56	57
329	342	352	363	371	376	386	393
261	273	280	288	299	303	311	317
273.7	282.7	291.6	299.0	308.9	306.2	313.2	317.7
1089.5	1167	1288	1386	1483	1565	1668	1738
498	471	476	483	482	489	508	515
410	421	433	443	453	462	475	484
908	960	1013	1072	1138	1179	1229	1272
1164	1182	1222	1277	1337	1387	1408	1440

CANADA

NEWFOUNDLAND
PRINCE EDWARD ISLAND
PELW SCOTIA
NEW BRUNSWICK
QUEBEC
ONTARIO
MANITOWA
SASKATCHEWAN
ALBERTA
BRITISH COLUMBIA

1985	1986	1987	1988	1989	1990
1289.4	1317.1	1340.8	1371.4	1402.2	1435.3
244	250	258	262	268	278
58	60	61	62	63	65
401	410	418	428	439	450
314	321	327	345	353	362
322.3	327.3	331.3	338.9	342.9	348.9
481.6	490.7	498.2	507.4	516.8	527.2
525	528	543	554	568	575
425	435	443	454	464	472
1022	1074	1127	1180	1234	1287
1481	1524	1561	1607	1651	1687

Table 3.17 continued

EMPLOYMENT

CANADA	1977	1978	1979	1980	1981	1982	1983	1984
NEWFOUNDLAND	9648	9871	10369	10855	10840	11077	11410	11733
PRINCE EDWARD ISLAND	161	166	175	185	188	193	198	204
QUEBEC	44	45	47	48	48	49	50	51
NEW SCOTIA	284	306	316	328	330	338	345	354
NEW BRUNSWICK	226	238	249	257	262	268	273	280
ONTARIO	2473	2520	2602	2687	2688	2728	2807	2875
MANITOBA	3714	3845	4008	4086	4188	4200	4318	4436
SASKATCHEWAN	428	440	452	459	463	468	480	490
ALBERTA	382	400	415	423	432	439	452	463
BRITISH COLUMBIA	889	915	976	1032	1084	1127	1178	1229
	1047	1083	1129	1181	1248	1304	1308	1351
CANADA	1985	1990	1987	1988	1989	1990		
NEWFOUNDLAND	12008	12262	12570	12879	13189	13535		
PRINCE EDWARD ISLAND	208	215	220	226	232	238		
QUEBEC	52	53	55	56	57	58		
NEW SCOTIA	362	370	379	388	397	407		
NEW BRUNSWICK	287	294	301	308	316	325		
ONTARIO	2920	2994	3040	3101	3168	3223		
MANITOBA	4530	4622	4718	4819	4923	5031		
SASKATCHEWAN	455	469	478	489	500	512		
ALBERTA	412	431	446	461	476	491		
BRITISH COLUMBIA	1276	1323	1376	1424	1483	1553		
	1299	1428	1469	1512	1597	1604		

UNEMPLOYMENT RATE

	1977	1978	1979	1980	1981	1982	1983	1984
Canada	8.12	8.38	7.47	7.83	7.88	8.41	8.54	7.12
NEW BRUNSWICK	19.76	18.91	19.48	13.48	14.06	14.86	15.04	14.49
PRINCE EDWARD ISLAND	9.86	10.10	11.24	11.08	11.32	11.22	11.08	10.33
NOVA SCOTIA	10.82	10.84	10.21	9.82	10.18	10.64	10.58	10.00
NEW BRUNSWICK	13.26	12.84	11.12	11.18	11.61	12.40	12.13	11.43
QUEBEC	10.31	10.88	9.58	9.89	10.37	10.64	10.37	9.49
ONTARIO	7.02	7.28	6.92	6.87	6.59	8.01	7.92	6.40
MANITOBA	5.84	6.34	5.37	5.53	5.88	6.24	5.74	4.83
SASKATCHEWAN	4.46	4.89	4.16	4.40	4.68	5.03	4.96	4.37
ALBERTA	4.46	4.70	3.89	3.72	3.80	4.37	4.13	3.38
BRITISH COLUMBIA	8.51	8.27	7.69	6.75	6.69	7.52	7.01	6.19

	1985	1986	1987	1988	1989	1990
Canada	6.87	6.78	6.26	6.09	5.87	5.70
NEW BRUNSWICK	14.27	14.19	13.78	12.68	12.92	13.38
PRINCE EDWARD ISLAND	10.42	10.43	10.08	10.19	10.07	9.98
NOVA SCOTIA	9.85	9.84	9.42	8.41	8.49	8.56
NEW BRUNSWICK	11.25	11.18	10.59	10.46	10.46	10.37
QUEBEC	9.11	8.84	8.24	7.96	7.70	7.90
ONTARIO	6.01	5.80	5.29	5.03	4.78	4.99
MANITOBA	4.98	4.88	4.52	4.57	4.21	4.01
SASKATCHEWAN	4.44	4.37	4.39	4.08	3.91	3.79
ALBERTA	3.48	3.71	3.23	3.51	3.43	3.20
BRITISH COLUMBIA	6.21	6.28	5.88	5.86	5.69	5.49

NOTE: Data from the Table 3.14

Table 3.17 continued

		PARTICIPATION RATE (1968-70-Year Change)									
		1977	1978	1979	1980	1981	1982	1983	1984		
Canada		0.49	1.04	0.75	0.65	0.69	0.45	0.82	0.26		
NEW BRUNSWICK		1.31	0.89	0.86	0.42	0.12	0.94	0.87	0.80		
PRINCE EDWARD ISLAND		0.16	0.82	1.38	0.29	-0.56	0.52	0.54	0.14		
NEW SCOTIA		0.03	1.15	0.59	0.93	-0.07	0.66	1.07	0.32		
NEW WESTMINSTER		0.13	1.26	0.33	0.65	0.72	0.82	0.87	0.87		
QUEBEC		0.53	0.82	0.32	0.99	0.22	0.94	1.21	0.76		
ONTARIO		0.46	1.15	1.11	0.20	0.94	0.24	0.69	0.24		
MANITOWA		0.47	1.36	0.62	0.30	0.49	0.38	0.74	0.29		
SASKATCHEWAN		0.87	0.42	0.81	0.22	0.94	0.16	0.78	0.18		
ALBERTA		0.07	1.15	1.17	0.89	1.38	-0.24	0.37	-0.08		
BRITISH COLUMBIA		0.26	1.08	0.11	0.93	1.02	-0.03	0.46	0.02		
Canada		0.54	0.62	0.49	0.85	0.69	0.97				
NEW BRUNSWICK		0.71	0.75	0.90	1.01	*.01	1.10				
PRINCE EDWARD ISLAND		0.65	0.54	0.36	0.83	0.70	0.78				
NEW SCOTIA		0.60	0.48	0.14	0.99	0.94	1.14				
NEW WESTMINSTER		0.48	0.87	0.56	0.79	0.74	0.87				
QUEBEC		0.76	0.87	0.78	1.09	1.19	1.31				
ONTARIO		0.38	0.48	0.22	0.66	0.72	0.80				
MANITOWA		0.79	0.70	0.69	0.96	0.84	0.92				
SASKATCHEWAN		0.45	0.69	0.69	0.52	0.81	0.83				
ALBERTA		0.35	0.42	0.34	1.06	0.92	0.90				
BRITISH COLUMBIA		0.81	0.90	0.72	0.70	0.66	0.60				

LABOUR FORCE
(YEAR-OVER-YEAR PERCENTAGE CHANGE)

	1977	1978	1979	1980	1981	1982	1983	1984
Canada	2.85	3.43	2.96	2.84	2.73	2.17	2.59	1.80
NEW GUINELAND	5.09	4.08	4.17	3.12	2.47	3.49	2.28	2.19
PRINCE EDWARD ISLAND	3.01	4.10	4.27	2.88	-0.08	2.07	2.11	0.42
NEW SCOTIA	1.88	3.30	2.88	3.31	1.08	2.50	2.71	1.09
NEW BRUNSWICK	2.72	4.84	2.80	3.15	2.64	2.27	2.58	1.83
QUEBEC	2.49	3.55	1.78	2.86	1.33	2.07	2.38	1.44
ONTARIO	2.80	3.81	3.40	1.82	3.63	1.88	2.28	1.44
MONTREAL	2.18	3.22	1.48	1.82	1.29	1.44	1.91	0.73
SASKATCHEWAN	4.12	3.84	2.78	2.21	2.28	1.99	2.68	1.81
ALBERTA	4.10	3.42	3.05	5.82	6.16	3.62	4.20	3.48
BRITISH COLUMBIA	2.31	4.14	3.57	4.48	4.89	2.26	2.89	2.37

	1985	1986	1987	1988	1989	1990
Canada	2.08	2.15	1.81	3.27	3.25	3.38
NEW GUINELAND	2.38	3.38	3.10	2.50	2.43	2.47
PRINCE EDWARD ISLAND	2.28	3.05	1.72	2.19	3.14	3.25
NOVA SCOTIA	2.14	3.22	1.80	3.39	3.54	3.61
NEW BRUNSWICK	2.20	2.26	1.75	2.34	3.54	3.52
QUEBEC	1.16	1.86	1.21	1.70	1.79	1.93
ONTARIO	1.70	1.81	1.53	1.69	1.89	2.01
MONTREAL	2.03	2.46	1.45	2.08	1.83	1.91
SASKATCHEWAN	2.37	2.41	2.01	2.06	2.28	2.30
ALBERTA	3.87	3.43	3.98	4.42	4.70	4.04
BRITISH COLUMBIA	2.87	3.68	3.41	3.83	3.76	3.78

Table 3.18
Ontario's personal income

	1977	1978	1979	1980	1981	1982	1983	1984
WAGES, SALARIES & SUPP. INC.	48344	52988	58259	65069	73002	81178	89887	101143
MILITARY PAY & ALLOWANCES	449	472	477	512	568	628	677	710
OTHER INCOME	13831	12113	14280	16027	17683	17758	20244	22677
CURRENT TRANSFERS:								
OLD-AGE TRANSFERS TO PERSONS	6812	7842	8207	8943	11013	14515	16689	17881
OTHER TRANSFERS TO PERSONS	368	301	385	472	508	574	628	680
PERSONAL INCOME	6764	72714	81699	92020	102792	114650	129208	143877
DIRECT, PERSONAL, GTR. TAXES & OTHER TRANSFERS	12005	12291	14741	17290	19862	21791	25031	27363
PERSONAL DISPOSABLE INCOME	54999	60423	66957	74730	82770	92859	104174	116514
REAL PERSONAL DISPOSABLE INCOME (DEFLATED BY CPI)	33829	34511	39019	35481	34928	34809	35715	35613

	1983	1984	1987	1989	1990
WAGES, SALARIES & SUPP. LAB. INCOME					
MILITARY PAY & ALLOWANCES					
OTHER INCOME					
CURRENT TRANSFERS:					
GOVT TRANSFERS TO PERSONS	111540	122053	120600	140680	162810
OTHER TRANSFERS TO PERSONS	742	793	823	896	895
GOVT TRANSFERS TO PERSONS	23912	38226	28730	22209	38345
OTHER TRANSFERS TO PERSONS					42323
PERSONAL INCOME					
GOVT TRANSFERS TO PERSONS	18486	21482	23833	29720	27894
OTHER TRANSFERS TO PERSONS	739	805	889	987	1080
PERSONAL INCOME	186427	172348	188838	238916	281360
INDUSTRY, PERSONAL DIS. TAXES & OTH. TRANSFERS					
PERSONAL INCOME	29840	20478	39440	38183	41799
PERSONAL DISPOSABLE INCOME					
PERSONAL DISPOSABLE INCOME	124679	138870	156487	170336	197864
REAL PERSONAL DISPOSABLE INCOME					
(DEFLATED BY CPI)	38472	37212	37821	38379	38879

NOTE: Nominal levels in millions of current dollars.
real income in millions of 1971 dollars.

Table 3.18 continued

YEAR-OVER-YEAR PERCENTAGE CHANGE

	1977	1978	1979	1980	1981	1982	1983	1984
WAGES, SALARIES & SUPP. LAB. INCOME	10.24	8.84	9.95	11.68	12.20	11.20	12.08	11.18
MILITARY PAY & ALLOWANCES	4.92	0.64	1.06	7.43	10.86	10.11	8.20	4.81
OTHER INCOME	10.09	11.84	17.89	12.23	10.21	0.54	14.00	11.03
CURRENT TRANSFERS:								
GOV'T TRANSFERS TO PERSONS	10.81	12.45	5.80	19.84	10.77	31.79	14.84	7.15
OTHER TRANSFERS TO PERSONS	-3.94	12.31	27.91	22.62	7.05	13.59	9.34	9.23
PERSONAL INCOME	7.18	9.16	10.83	12.63	11.66	11.58	12.70	10.58
DEDUCT: PERSONAL DIR. TAXES & OTH. TRANSFERS	6.93	5.12	11.24	17.02	15.84	9.05	14.86	9.32
PERSONAL DISPOSABLE INCOME	11.08	10.82	10.74	11.67	10.70	12.19	12.19	10.89
REAL PERSONAL DISPOSABLE INCOME (DEFLATED BY CPI)	2.84	1.71	1.47	1.35	-1.59	-0.19	2.46	1.95

	1985	1986	1987	1988	1989	1990
VAGES, SALARIES & SUPP. LAB. INCOME						
MILITARY PAY & ALLOWANCES	10.28	10.24	10.33	9.80	8.37	8.98
OTHER INCOME	4.50	5.52	5.44	3.75	3.38	3.42
	6.18	10.13	9.09	12.32	12.63	16.45
CURRENT TRANSFERS:						
GOV'T TRANSFERS TO PERSONS	9.14	10.10	11.09	7.82	8.68	10.37
OTHER TRANSFERS TO PERSONS	7.81	8.95	10.41	10.87	10.96	8.44
PERSONAL INCOME	9.48	10.18	10.21	9.78	9.77	10.31
DEDUCT: PERSONAL DIR. TAXES & OTH. TRANSFERS	7.89	8.91	8.12	7.74	9.47	9.95
PERSONAL DISPOSABLE INCOME	9.84	10.24	10.46	10.38	9.84	10.40
REAL PERSONAL DISPOSABLE INCOME (DEFLATED BY CPI)	0.71	1.47	1.83	2.75	1.81	2.32

Table 3.19

Ontario's real domestic product by industry

	1977	1978	1979	1980	1981	1982	1983	1984
1 AGRICULTURE, FISHING & TRAPPING								
2 FORESTRY	725	730	770	758	758	752	764	780
3 MINERAL FUEL MINES & WELLS	102	107	112	108	111	112	116	120
4 OTHER MINES & QUARRIES	2	2	3	3	3	3	3	3
	508	369	354	385	371	345	341	334
5 FOOD, FEED, BEVERAGES & TOBACCO	1416	1363	1407	1447	1457	1452	1470	1502
6 TEXTILES & CLOTHING	600	621	669	664	664	651	659	681
7 WOOD & FURNITURE	364	364	358	351	353	341	349	353
8 PAPER, PRINTING & ALLIED INDUSTRIES	1180	1281	1312	1312	1337	1325	1355	1378
9 PRIMARY METAL & METAL FABRICATING	2315	2331	2384	2440	2446	2370	2456	2548
10 MOTOR VEHICLES & PARTS	1804	1873	1756	1548	1645	1624	1689	1782
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	1217	1331	1448	1289	1279	1233	1310	1412
12 ELECTRICAL PRODUCTS	1048	1085	1168	1158	1138	1083	1126	1179
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	1543	1653	1753	1694	1725	1721	1798	1886
14 NON-METALLIC MINERAL PRODUCTS	418	429	426	392	399	387	400	420
15 OTHER MANUFACTURING INDUSTRIES	604	634	659	633	608	576	589	615
TOTAL MANUFACTURING	12519	12956	13250	12964	13087	12764	13200	13766
16 CONSTRUCTION	2085	1975	1866	1958	2034	2000	2074	2140
17 ELECTRIC POWER, WATER & GAS UTILITIES	1232	1274	1330	1369	1427	1483	1535	1616
TOTAL GOODS-PRODUCING INDUSTRIES	17153	17394	17765	17542	17772	17438	18037	18760
18 TRANSPORTATION & STORAGE	2133	2208	2363	2238	2243	2227	2286	2354
19 COMMUNICATION	1526	1743	1832	1928	2008	2151	2216	2500
20 TRADE	5178	5327	5344	5366	5392	5311	5343	5713
21 FINANCE, INSURANCE & REAL ESTATE	6087	6310	6416	6720	6814	7059	7539	7876
22 OTHER SERVICE INDUSTRIES	6422	6863	6834	6976	7243	7419	7765	8140
TOTAL SERVICE INDUSTRIES	21446	22451	22689	23159	23918	24227	25260	26383
23 GOVERNMENT SECTOR	5077	4751	4656	4390	4326	4349	4424	4487
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	43676	44595	45130	45081	46016	46015	47720	49840

	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING						
2 FORESTRY	790	808	817	830	840	848
3 MINERAL FUEL MINES & WELLS	124	128	132	136	140	143
4 OTHER MINES & QUARRIES	3	3	3	3	3	3
	324	319	303	283	280	266
5 FOOD, FEED, BEVERAGES & TOBACCO	1524	1556	1581	1610	1638	1658
6 TEXTILES & CLOTHING	678	674	665	664	663	663
7 WOOD & FURNITURE	355	360	363	365	365	364
8 PAPER, PRINTING & ALLIED INDUSTRIES	1391	1418	1442	1450	1450	1450
9 PRIMARY METAL & METAL FABRICATING	2569	2638	2662	2703	2721	2727
10 MOTOR VEHICLES & PARTS	1837	1830	1844	1817	1787	1700
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	1457	1520	1570	1645	1705	1752
12 ELECTRICAL PRODUCTS	1180	1215	1238	1271	1281	1307
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	1931	2018	2068	2140	2189	2254
14 NON-METALLIC MINERAL PRODUCTS	431	438	445	454	460	464
15 OTHER MANUFACTURING INDUSTRIES	806	808	597	601	603	603
TOTAL MANUFACTURING	14010	14273	14460	14713	14881	14950
16 CONSTRUCTION	2207	2253	2310	2362	2398	2426
17 ELECTRIC POWER, WATER & GAS UTILITIES	1688	1772	1858	1955	2046	2147
TOTAL GOODS-PRODUCING INDUSTRIES	19145	19552	19884	20292	20567	20782
18 TRANSPORTATION & STORAGE	2397	2450	2513	2576	2631	2709
19 COMMUNICATION	2666	2895	3114	3352	3598	3885
20 TRADE	5844	6030	6222	6412	6573	6751
21 FINANCE, INSURANCE & REAL ESTATE	8008	8345	8687	9037	9386	9802
22 OTHER SERVICE INDUSTRIES	8538	8977	9427	9884	10347	10822
TOTAL SERVICE INDUSTRIES	27473	28686	29963	31261	32546	34069
23 GOVERNMENT SECTOR	4988	4850	4746	4841	4824	5013
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	51187	52888	54863	56384	58037	59874

NOTE: Levels in millions of 1971 dollars.

Table 3.19 continued

YEAR-OVER-YEAR PERCENTAGE CHANGE

	1977	1978	1979	1980	1981	1982	1983	1984
1 AGRICULTURE, FISHING & TRAPPING	4.46	0.75	5.40	-1.90	0.41	-0.87	1.72	2.02
2 FORESTRY	11.41	4.16	5.23	-2.78	2.70	-0.63	4.55	3.54
3 MINERAL FUEL MINES & WELLS	0.0	0.08	10.45	-2.76	1.62	2.65	3.12	0.04
4 OTHER MINES & QUARRIES	-0.84	-27.31	-4.06	8.79	-3.71	-6.86	-1.18	-2.06
5 FOOD, FEED, BEVERAGES & TOBACCO	-0.03	-3.73	3.26	2.83	0.66	-0.34	1.25	2.20
6 TEXTILES & CLOTHING	6.20	3.59	7.83	-0.76	0.60	-2.52	1.30	3.29
7 WOOD & FURNITURE	-4.50	-0.15	-1.67	-1.98	0.62	-3.25	2.38	0.98
8 PAPER, PRINTING & ALLIED INDUSTRIES	6.89	5.14	4.88	1.87	0.86	-1.71	2.23	1.73
9 PRIMARY METAL & METAL FABRICATING	-0.80	0.67	2.70	1.95	0.24	-3.12	3.62	3.77
10 MOTOR VEHICLES & PARTS	5.80	3.84	-6.28	-11.83	6.26	-1.26	3.97	5.55
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	0.22	9.36	8.72	-10.25	-1.95	-3.61	6.26	7.18
12 ELECTRICAL PRODUCTS	-5.49	3.57	7.70	-0.93	-1.75	-0.81	3.67	4.42
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	5.28	7.11	6.77	-0.93	1.63	-0.83	4.66	5.46
14 NON-METALLIC MINERAL PRODUCTS	-4.06	2.71	-0.78	-7.81	1.61	-2.80	3.93	4.38
15 OTHER MANUFACTURING INDUSTRIES	-2.86	4.58	4.08	-3.53	-3.78	-5.46	2.19	4.37
TOTAL MANUFACTURING	1.39	3.33	3.20	-2.88	0.78	-2.32	3.44	4.27
16 CONSTRUCTION	-4.85	-4.34	-5.52	4.80	3.88	-1.66	3.67	3.20
17 ELECTRIC POWER, WATER & GAS UTILITIES	5.10	3.42	4.39	2.91	4.28	2.51	4.89	5.31
TOTAL GOODS-PRODUCING INDUSTRIES	0.89	1.40	2.25	-1.37	1.31	-1.88	3.43	4.01
18 TRANSPORTATION & STORAGE	5.95	3.93	2.51	-1.56	0.68	-0.71	2.64	2.96
19 COMMUNICATION	11.14	7.19	5.10	5.21	6.67	4.62	7.66	7.86
20 TRADE	0.81	2.89	0.32	-0.90	2.18	-0.76	3.20	3.07
21 FINANCE, INSURANCE & REAL ESTATE	5.96	3.67	1.67	4.89	3.48	1.37	4.12	4.44
22 OTHER SERVICE INDUSTRIES	5.68	6.85	-0.42	2.11	3.80	2.44	4.67	4.82
TOTAL SERVICE INDUSTRIES	5.01	4.69	1.06	2.07	3.28	1.30	4.26	4.45
23 GOVERNMENT SECTION	-1.24	-6.42	-1.99	-5.71	-1.45	0.33	1.72	1.06
TOTAL: ALL SECTORS (GROSS PROD. PRODUCT AT FACTOR COST - REAL)	2.61	2.11	1.20	-0.08	2.08	-0.00	3.71	4.02

	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	1.31	2.23	1.16	1.60	1.14	0.86
2 FORESTRY	2.90	3.86	2.77	3.13	2.25	2.29
3 MINERAL FUEL MINES & WELLS	-3.65	-0.27	2.24	7.25	1.30	-0.38
4 OTHER MINES & QUARRIES	-3.22	-2.95	-3.86	-3.33	-4.42	-4.88
5 FOOD, FEED, BEVERAGES & TOBACCO	1.46	2.03	1.60	1.83	1.54	1.44
6 TEXTILES & CLOTHING	-0.43	-0.93	-1.41	-0.08	0.05	-0.27
7 WOOD & FURNITURE	0.58	1.50	0.65	0.76	-0.12	-0.15
8 PAPER, PRINTING & ALLIED INDUSTRIES	0.94	1.87	0.56	1.17	0.57	0.52
9 PRIMARY METAL & METAL FABRICATING	1.62	1.86	0.91	1.54	0.68	0.20
10 MOTOR VEHICLES & PARTS	3.07	-0.38	0.77	-1.47	-2.76	-3.77
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	3.23	4.29	3.32	4.78	3.63	2.74
12 ELECTRICAL PRODUCTS	0.95	2.08	1.91	2.64	1.62	1.20
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	2.93	3.42	2.54	3.42	2.73	2.50
14 NON-METALLIC MINERAL PRODUCTS	2.49	1.82	1.49	1.87	1.26	0.95
15 OTHER MANUFACTURING INDUSTRIES	-1.48	-0.04	-1.38	0.76	0.33	-0.03
TOTAL MANUFACTURING	1.77	1.87	1.31	1.75	1.00	0.60
16 CONSTRUCTION	3.12	2.10	2.52	2.24	1.95	1.55
17 ELECTRIC POWER, WATER & GAS UTILITIES	4.42	4.98	4.91	5.16	4.64	4.88
TOTAL GOODS-PRODUCING INDUSTRIES	2.05	2.13	1.69	2.05	1.36	1.10
18 TRANSPORTATION & STORAGE	1.82	2.20	2.87	2.53	2.12	2.88
19 COMMUNICATION	7.45	7.75	7.88	7.83	7.28	7.83
20 TRADE	2.28	3.18	3.19	3.05	2.50	2.71
21 FINANCE, INSURANCE & REAL ESTATE	4.33	4.20	4.11	4.02	3.88	4.22
22 OTHER SERVICE INDUSTRIES	4.89	5.15	5.01	4.85	4.68	5.56
TOTAL SERVICE INDUSTRIES	4.13	4.45	4.42	4.32	4.11	4.68
23 GOVERNMENT SECTOR	1.59	1.77	2.07	1.89	1.72	1.80
TOTAL: ALL SECTORS (GROSS PROD., PRODUCT AT FACTOR COST - REAL)	3.12	3.34	3.20	3.30	2.91	3.17

Table 3.20
Ontario's employment by industry

	1977	1978	1979	1980	1981	1982	1983	1984
1 AGRICULTURE, FISHING & TRAPPING	110	112	124	120	118	114	111	108
2 FORESTRY	10	11	12	11	12	12	12	12
3 MINERAL FUEL MINES & WELLS	0	0	0	0	0	0	0	0
4 OTHER MINES & QUARRIES	31	27	25	29	29	28	29	29
5 FOOD, FEED, BEVERAGES & TOBACCO	112	109	115	120	123	123	124	125
6 TEXTILES & CLOTHING	73	75	81	82	83	80	78	80
7 WOOD & FURNITURE	36	37	39	38	38	36	36	36
8 PAPER, PRINTING & ALLIED INDUSTRIES	82	83	86	102	104	102	104	105
9 METALS & NON-METALLIC MINERAL PRODUCTS	170	168	181	189	190	185	190	195
10 MOTOR VEHICLES & PARTS	103	102	103	104	104	104	104	104
11 MACHINERY & OTHER TRANSPORTATION EQUIP	86	100	123	128	125	120	122	126
12 ELECTRICAL PRODUCTS	89	92	92	102	100	95	97	100
13 CHEMICAL RUBBER & PETROLEUM PRODUCTS	82	86	82	94	96	89	87	90
14 NON-METALLIC MINERAL PRODUCTS	37	37	39	39	39	39	39	31
15 OTHER MANUFACTURING INDUSTRIES	70	70	76	76	73	68	69	71
TOTAL MANUFACTURING	848	861	1036	1045	1085	1027	1046	1071
16 CONSTRUCTION	183	179	172	170	182	182	182	200
17 ELECTRIC POWER, WATER & GAS UTILITIES	33	36	38	37	39	39	40	42
TOTAL GOODS-PRODUCING INDUSTRIES	1315	1332	1408	1412	1425	1402	1430	1482
18 TRANSPORTATION & STORAGE	152	152	169	167	168	166	167	169
19 COMMUNICATION	99	100	104	103	106	109	114	118
20 TRADE	623	630	671	676	675	705	726	744
21 FINANCE, INSURANCE & REAL ESTATE	229	234	238	261	273	278	288	297
22 OTHER SERVICE INDUSTRIES	847	919	963	1016	1062	1121	1178	1225
TOTAL SERVICE INDUSTRIES	1941	2063	2149	2224	2247	2290	2473	2692
23 GOVERNMENT SECTOR	459	449	493	430	404	408	414	421
TOTAL: ALL SECTORS	3714	3845	4008	4065	4156	4200	4318	4496

	1985	1990	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	106	102	89	86	93	90
2 FORESTRY	13	13	13	14	14	14
3 MINERAL FUEL MINES & WELLS	0	0	0	0	0	0
4 OTHER MINES & QUARRIES	29	29	29	29	29	28
5 FOOD, FEED, BEVERAGES & TOBACCO	126	137	128	129	130	131
6 TEXTILES & CLOTHING	78	75	72	70	68	67
7 WOOD & FURNITURE	29	28	29	34	32	33
8 PAPER, PRINTING & ALLIED INDUSTRIES	104	105	104	104	104	103
9 PRIMARY METAL & METAL FABRICATING	198	197	197	197	197	198
10 MOTOR VEHICLES & PARTS	107	106	107	109	102	98
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	126	126	126	126	126	128
12 ELECTRICAL PRODUCTS	88	88	97	98	97	97
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	101	102	102	103	104	104
14 NON-METALLIC MINERAL PRODUCTS	31	32	32	32	32	32
15 OTHER MANUFACTURING INDUSTRIES	69	67	68	64	63	62
TOTAL MANUFACTURING	1072	1070	1084	1062	1058	1047
16 CONSTRUCTION	208	214	223	220	228	245
17 ELECTRIC POWER, WATER & GAS UTILITIES	43	44	45	46	47	48
TOTAL GOODS-PRODUCING INDUSTRIES	1470	1473	1473	1477	1478	1472
18 TRANSPORTATION & STORAGE	168	168	168	168	168	171
19 COMMUNICATION	122	126	120	134	138	142
20 TRADE	754	775	784	812	829	846
21 FINANCE, INSURANCE & REAL ESTATE	308	317	326	335	346	357
22 OTHER SERVICE INDUSTRIES	1477	1328	1384	1440	1502	1574
TOTAL SERVICE INDUSTRIES	2832	2713	2802	3090	2969	3062
23 GOVERNMENT SECTOR	428	426	444	461	459	466
TOTAL: ALL SECTORS	4630	4422	4719	4818	4823	5001

NOTE: Levels in thousands.

Table 3.20 continued

YEAR-OVER-YEAR PERCENTAGE CHANGE

	1977	1978	1979	1980	1981	1982	1983	1984
1 AGRICULTURE, FISHING & TRAPPING	0.41	1.72	10.78	-2.31	-1.44	-3.84	-2.42	-2.52
2 FORESTRY	11.03	4.42	7.59	-4.22	4.29	0.21	4.21	2.88
3 MINERAL FUEL MINES & WELLS	0.0	14.44	13.56	8.80	2.84	3.39	2.54	-0.40
4 OTHER MINES & QUARRIES	-4.77	-11.51	-7.48	14.81	0.84	-2.79	2.09	0.89
5 FOOD, FEED, BEVERAGES & TOBACCO	0.37	-2.52	5.97	4.48	2.02	0.04	0.67	1.23
6 TEXTILES & CLOTHING	2.25	3.23	7.31	1.55	0.87	-3.69	-0.69	0.81
7 WOOD & FURNITURE	-8.04	0.76	6.59	-3.47	0.16	-2.85	1.27	-1.28
8 PAPER, PRINTING & ALLIED INDUSTRIES	6.07	1.66	6.24	2.89	2.11	-1.62	1.77	0.54
9 PRIMARY METAL & METAL FABRICATING	-3.80	-0.95	7.49	3.98	1.22	-2.85	2.78	2.60
10 MOTOR VEHICLES & PARTS	5.95	0.46	-0.38	-15.53	8.23	0.20	4.28	2.60
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	-4.95	11.87	15.73	3.88	-2.02	-4.32	2.08	2.57
12 ELECTRICAL PRODUCTS	-7.07	3.35	7.54	3.36	-1.66	-5.65	2.14	2.95
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	1.99	4.35	7.19	2.49	1.83	-0.87	2.47	2.53
14 NONMETALLIC MINERAL PRODUCTS	-3.94	0.38	6.75	-0.40	2.80	-2.09	3.07	2.19
15 METALLIC MINERAL PRODUCTS	-5.27	1.04	7.76	-0.13	-3.62	-6.28	0.86	2.87
16 OTHER MANUFACTURING	-1.24	1.99	7.19	0.85	0.87	-2.72	1.80	2.36
16 CONSTRUCTION	-3.85	-1.74	-3.89	-1.65	7.18	0.27	5.09	4.29
17 ELECTRIC POWER, WATER & GAS UTILITIES	2.31	7.70	6.17	-2.70	4.43	1.52	2.87	2.89
TOTAL GOODS-PRODUCING INDUSTRIES	-1.40	1.30	5.68	0.29	1.62	-2.20	2.02	2.23
18 TRANSPORTATION & STORAGE	0.17	7.19	4.24	-1.55	0.81	-1.34	0.80	0.72
19 COMMUNICATION	4.27	4.81	4.80	-1.41	4.72	1.74	3.77	3.67
20 TRADE	7.47	4.37	3.29	1.02	4.00	0.08	2.91	2.42
21 FINANCE, INSURANCE & REAL ESTATE	7.52	4.17	1.48	9.68	4.81	1.72	3.44	3.37
22 OTHER SERVICE INDUSTRIES	7.46	6.47	4.82	5.49	7.60	3.47	4.16	3.85
TOTAL SERVICE INDUSTRIES	5.07	6.38	3.90	2.66	5.54	1.82	3.47	3.20
23 GOVERNMENT SECTOR	-1.45	-1.94	1.29	-5.45	-5.95	0.81	1.61	1.65
TOTAL: ALL SECTORS	1.87	3.55	4.21	1.45	2.95	0.33	2.80	2.73

	1969	1966	1967	1968	1969	1960
1 AGRICULTURE, FISHING & TRAPPING						
2 FORESTRY	-2.83	-2.52	-3.39	-3.01	-2.94	-3.43
3 MINERAL FUEL MINES & WELLS	2.49	3.00	2.12	2.40	2.09	1.87
4 OTHER MINES & QUARRIES	-3.54	-0.80	1.41	3.14	0.95	-0.66
	-0.06	0.27	-0.86	-0.25	-0.83	-1.51
5 FOOD, FEED, BEVERAGES & TOBACCO						
6 TEXTILES & CLOTHING	0.71	0.81	0.58	0.71	0.83	0.43
7 WOOD & FURNITURE	-2.61	-3.14	-3.87	-2.80	-2.21	-3.04
8 PAPER, PRINTING & ALLIED INDUSTRIES	-1.47	-0.39	-1.55	-1.48	-1.29	-2.20
9 PRIMARY METAL & METAL FABRICATING	-0.07	0.48	-0.68	-0.19	-0.26	-0.73
10 MOTOR VEHICLES & PARTS	0.68	0.51	-0.20	0.31	-0.04	-0.19
11 MACHINERY & GEN. TRANSPORTATION EQUIP.	3.29	-0.75	0.52	-1.80	-2.84	-0.05
12 ELECTRICAL PRODUCTS	-0.22	0.12	-0.41	0.58	0.21	-0.81
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	-1.02	-0.33	-0.27	0.27	-0.18	-0.81
14 NON-METALLIC MINERAL PRODUCTS	0.83	0.89	0.25	0.93	0.79	0.18
15 OTHER MANUFACTURING INDUSTRIES	1.63	0.64	0.64	1.08	0.69	0.38
	-3.31	-2.15	-3.47	-1.62	-1.22	-2.38
TOTAL MANUFACTURING						
	0.06	-0.14	-0.59	-0.30	-0.40	-1.87
16 CONSTRUCTION	4.36	3.87	3.72	3.89	3.23	3.89
17 ELECTRIC POWER, WATER & GAS UTILITIES	2.30	2.42	2.54	2.76	2.89	2.66
TOTAL GOODS-PRODUCING INDUSTRIES						
	0.51	0.23	-0.01	0.30	0.10	-0.48
18 TRANSPORTATION & STORAGE						
19 COMMUNICATION	-0.13	-0.20	0.33	0.25	0.23	0.79
20 TRADING	3.33	3.19	3.22	3.21	3.33	3.82
21 FINANCE, INSURANCE & REAL ESTATE	1.86	2.27	2.47	2.28	2.14	2.09
22 OTHER SERVICE INDUSTRIES	3.46	2.91	2.89	2.84	3.19	3.28
	4.23	4.05	4.18	4.10	4.29	4.80
TOTAL SERVICE INDUSTRIES						
	3.12	3.00	3.27	3.16	3.28	3.59
23 GOVERNMENT SECTOR						
	1.72	1.78	1.77	1.71	1.68	1.64
TOTAL: ALL SECTORS						
	2.12	2.04	2.08	2.13	2.15	2.19

4 **Altering some key assumptions**

The reliability of the base-case projections presented in Chapters 2 and 3 clearly depends in large part on our assumptions for the models' exogenous variables. Any variation from the assumed path of one or more of them will change, to some degree, the projected path of the endogenous variables. Thus, the accuracy of the assumptions is important. But, since no set of assumptions ever proves completely accurate, what is even more important is the sensitivity of the projections to variations in them.

One of the main purposes of this chapter, therefore, is to present a group of sensitivity tests in which we change one exogenous variable at a time and examine the impact on a set of summary variables. The new projected paths give some insight into the mechanics of the FOCUS and PRISM models as well as some idea of the importance of a particular exogenous variable assumption. This procedure is not, however, merely an academic exercise; it is a way of asking what effects changes in government policy would have on the Canadian - and hence the Ontario - economy.

The contributions to the policy debate flow from our choice of exogenous variables to test. From the lengthy list of possibilities (FOCUS alone contains more than two hundred exogenous variables and PRISM about seven hundred), we selected seven alternatives. The set is small, but it includes key assumptions. Moreover, five of the alternative cases are direct changes in the base case's assumptions about government policy; the other two alter assumptions about the economic environment, but both necessitate a policy response (the Bank of Canada must decide on an exchange-rate policy).¹

1 Conveniently for (and perhaps a cause of) our strong emphasis on govern-

Thus, this chapter presents both tests of the sensitivity of the model and an examination of policy options by discussing projections of the following alternative assumptions:

- An increase in government expenditures on goods and services.
- An increase in personal income taxes.
- An increase in the existing investment tax credits.
- A wage subsidy program.
- An increase in the target growth rate of the money supply.
- A large, one-time, exogenous outflow of capital.
- An increase in interest rates in the United States.

Following the previous pattern, summary tables accompany the relevant parts of the text; detailed results (for all Canada and for Ontario) are grouped at the end of the chapter.

THE ALTERNATIVE CASES

Two points are worth mentioning before examining the results of these experiments. All the alternative cases, unless noted to the contrary, assume that the Bank of Canada follows a flexible exchange rate policy and continues its policy of gradually reducing the growth rate of the money supply. (This assumption changes only in the final test, which examines the sensitivity of the models to alternative exchange-rate and monetary policies.) In addition, the models require an implicit assumption about the degree of international capital mobility.² In these simulations, we assume that long-term capital borrowings abroad are somewhat offset by short-term capital outflows that is, a less-than-perfectly-mobile capital flow.³ All other assumptions are the same as those in the base-case projections.

ment policy variables, FOCUS has evolved primarily as a policy simulation model.

2 In FOCUS, it is relatively simple to change from an assumption of a very mobile capital flow assumption to one of a restricted capital flow. Our experiments retained the coefficient estimated by ordinary least squares procedure, which can best be described as an assumption of a semimobile capital flow assumption.

3 This assumption effectively dampens the exchange-rate response necessary to clear the foreign exchange market under a flexible exchange rate. In the simulations in which exchange-rate movements play an important role, increased capital mobility leads to stronger effects.

Finally, notice that all the alternative simulations begin in the first quarter of 1982. Since the base-case projection has the economy substantially below potential output during 1982 and 1983, an appropriately designed policy should, therefore, have initial effects that are larger for real output than for prices.

Increased government expenditure

As an example of a demand-side policy, we assume a rise in real government expenditures on goods and services, increasing them by \$500 million over the base-case projection for each year from 1982 to 1990. As illustrated in Table 4.1 (and in greater detail in Tables 4.10 through 4.12 at the end of the chapter), the results demonstrate the effects of a traditional expansionist fiscal policy.⁴

The increased government expenditure results in both real and nominal effects, which, as one would expect, are not identical. The impact on real GNP is greatest in the second and third years of the program; real output then rises by about \$600 million, for a multiplier of just over 1.2 at the peak. The value for the multiplier is low because two types of crowding out occur: in the financial markets because interest rates rise, and in the market for real goods and services because prices are bid up.

The impact on prices grows stronger throughout the simulation period. In the short run, the demand pressures that result from the policy are the major cause of the higher price level. In the longer run, however, demand declines relative to the base case, but prices continue to rise, largely because of a fall in the exchange rate.⁵ As the value of the Canadian dollar falls, the domestic prices of foreign goods rise. By 1987, when real GNP is lower than that of the base projection, the foreign-price effect is strong enough to keep domestic prices higher than they are in the base case projection.

4 For a more thorough analysis of the impacts of increased government expenditures on goods and services as simulated in the FOCUS model, see Institute for Policy Analysis (1982). A theoretical discussion of the impacts of increased government expenditures can be found in Turnovsky (1977).

5 Recall that this study defines the exchange rate as \$US/\$Canadian, so that a fall in the exchange rate is equivalent to a depreciation of the Canadian dollar.

TABLE 4.1

Effect on Canada and Ontario of increased government expenditures (yearly averages - changes from base case)

	1982-4	1985-7	1988-90
Canada			
GNP (change in millions of 1971\$)	522.6	29.0	-222.4
GNP price deflator (1971 = 1.00)	0.03	0.07	0.15
Real net foreign trade (millions of 1971\$; change in exports less change in imports)	-281.6	-566.4	-851.4
Ontario			
GDP (at factor cost) (change in exports less change in imports)	214.5	53.8	16.9
Employment (change in thousands)	19.6	14.2	15.7
Unemployment rate (change in rate)	-0.33	-0.24	-0.25
Real domestic product - goods (change in millions of 1971\$)	72.5	-29.0	-55.1

On the labour front, the increased government expenditures successfully reduce the unemployment rate and increase employment throughout the period, indicating that although GNP declines, the domestic component of output remains relatively high. The increased demand for labour results in higher average annual wages and salaries, a larger labour force, and a greater level of personal income.

As shown in Tables 4.1 and 4.10, the aggregate Ontario results are similar to the national ones in magnitude and timing. The growth rate of the real provincial product rises in the first years of the policy, declines for a time, then rises again in 1989 and 1990. The Ontario unemployment rate declines throughout the simulation period more than the national rate does. The principal reason for the difference is that Ontario has a disproportionate amount of the expenditure categories that increase the most or decrease the least. The service sector records relatively high growth rates throughout the period, but the goods-producing industries initially have higher, then relatively lower growth rates.

An increase in personal income taxes

To contrast the effects of an expansionary policy of increased government

spending, we examine the impact of a policy of contraction: increased personal income taxes. The assumption is that the government partially eliminates the federal tax reduction, with the objective of raising an extra \$2000 million per year in personal taxes.⁶ An additional assumption is that the increase in taxes is not directly passed through to wage demands; that is, labour bargains for before-tax wage rates as opposed to maintaining a particular level of disposable income.⁷

The results, shown in Tables 4.2 and 4.13 through 4.15, illustrate the traditional effects of a fiscal policy of contraction. Initially, both real GNP and prices decline relative to the base-case projections. While the price decline continues throughout the entire period, the impact on real GNP reverses itself five years after the policy change comes into effect. The forces behind this phenomenon are similar to those that reversed the effect of increased government expenditures. First, the tax increase reduces the federal government deficit, resulting in smaller borrowing requirements. This decrease makes more financial resources available to the private sector and puts downward pressure on the rate of interest. Eventually, in 1986, the lower interest rates induce higher investment expenditures. Meanwhile, the exchange rate initially appreciates, reducing real exports. However, once the downward price movement is sufficiently strong, its impact on exports is positive. This occurs in 1985, but not until 1987 are the two effects sufficient to dominate the negative effect the tax increase has on consumption expenditures.

The personal tax rise's impact on Ontario reflects the varying composition of the expenditure movements at the national level. The goods-producing industries are initially affected more severely than the service industries, reflecting the relative declines in export, investment, and consumption expenditures. During the last half of the simulation period, when exports and investments are high and consumption expenditures low, the service sector is significantly more adversely affected than the goods sector. Not surprisingly though, the provincial real GNP follows approximately the same pattern as the national GNP.

6 In fact, the November 1981 federal budget included a partial cancellation of the federal income tax reduction, although the amount to be collected is not as great. A brief discussion of the effects of a rise in personal income taxes can be found in Blinder and Solow (1974).

7 See Hartle, D.G. et al. 'Stagflation Consequences of the Canadian Tax/Transfer System' O.E.C. Conference Paper 1981, and Auld and Wilton (1980).

Altering Some Key Assumptions

TABLE 4.2

Effect on Canada and Ontario of increased personal income taxes
(yearly averages - changes from base case)

	1982-4	1985-7	1988-90
Canada			
GNP (change in millions of 1971\$)	-577.5	-121.0	581.3
GNP price deflator (1971 = 1.00)	-0.03	-0.08	-0.15
Real net foreign trade (millions of 1971\$; change in exports less change in imports)	-160.9	522.0	805.1
Investment (change in millions of 1971\$)	-118.1	170.1	469.5
Ontario			
GDP (at factor cost) (change in millions of 1971\$)	-233.5	-80.4	135.5
Employment (change in thousands)	-19.1	-17.6	-0.7
Unemployment rate (change in rate)	0.32	0.29	0.09
Real domestic product - goods (change in millions of 1971\$)	-104.4	-3.7	128.9

The number of persons employed in Ontario declines, as does participation in the labour force. In every year except 1988, the fall in the number of persons employed is greater than the decline in the labour force, so the unemployment rate rises. Lower total employment combines with higher personal income taxes to result in a real personal disposable income that is lower per capita than the base case's in each year of the simulation.

An investment tax credit

For our third alternative case, we simulated a doubling of existing investment tax credits,⁸ which is assumed to remain in place throughout the period. In effect, the policy raises the real after-tax rate of return to investment in machinery and equipment and in nonresidential structures.

As shown in Table 4.3 (and detailed in Table 4.16 at the end of the

⁸ See Fisher (1981) for a discussion of an investment tax credit proposal. In a paper prepared for the Canadian Securities Industry Tax Committee, Bossons and Jump (1981), using the FOCUS model, examine the effects of indexing capital cost allowances. The results they report are similar to those of simulation of doubling the investment tax credit.

chapter), the national macroeconomic effects are of two types. Immediately following the policy change, up to 1985, an aggregate-demand effect dominates, as both prices and output rise. From 1986 on, however, increases in aggregate supply are stronger, resulting in downward pressure on the price level and in increased real output. This outcome is caused by two factors directly related to the investment tax credit. The first is the additional investment it induces, which leads to a larger capital stock in the future and, therefore, a larger potential output. The second is a substantial rise in after-tax corporate profits (relative to the base case), which provides an incentive for firms to achieve the larger potential output, increasing aggregate supply with beneficial effects on prices and real output.

The major components of total expenditures change in varying proportions. It is hardly surprising that business investment undergoes the largest percentage increase during the first years of the period. By 1986, however, the change in exports is larger. They rise, initially because the value of the Canadian dollar falls, and from 1986 on, because a relative decline in price levels makes Canadian goods more competitive in world markets, reinforcing the stimulus to exports. Consumption expenditure increases throughout the simulation period.

Ontario's economy fares better as a result of doubling the investment tax credit than do the other provinces' (see Table 4.3 and Tables 4.17 and 4.18 at the end of the chapter). The province retains a large proportion of the export- and investment-oriented industries; since first nonresidential investments and then export goods rise, its economy receives significant stimuli throughout the period. As for industrial detail, capital-intensive industries outdo labour-intensive because the cost of capital has fallen; therefore, the goods-producing industries undergo a larger expansion than the service industries.

The policy alternative of increasing the investment tax credit has the attractive advantage of improving productivity performance. In Ontario, GDP at factor cost per employee rises by approximately 0.25 per cent in each year, largely as a result of the newer and larger working capital stock. Moreover, employment increases more than the labour force does, so the unemployment rate falls.

The effects of a wage subsidy scheme

This simulation assumes a wage subsidy program designed so that the federal

Altering Some Key Assumptions

TABLE 4.3

Effect on Canada and Ontario of doubling investment tax credits
(yearly averages - changes from base case)

	1982-4	1985-7	1988-90
Canada			
GNP (change in millions of 1971\$)	390.9	494.0	706.2
GNP price deflator (1971 = 1.00)	0.0	-0.01	-0.01
Real net foreign trade (millions of 1971\$: change in exports less change in imports)	91.8	111.7	153.7
Investment (change in millions of 1971\$)	132.4	160.3	280.1
Ontario			
GDP (at factor cost) (change in millions of 1971\$)	188.4	228.6	311.1
Employment (change in thousands)	8.2	9.7	12.0
Real domestic product - goods (change in millions of 1971\$)	108.5	124.8	159.9
GDP (at factor cost) per employee (change in thousands of 1971\$)	0.025	0.026	0.034

government pays slightly more than 0.5 per cent of the total private wage bill.⁹ Introducing the subsidy causes employers' cost per worker to decline; the most direct result is an increase in the demand for labour, and both the number of persons employed and the average wage rise. Other national results are shown in Table 4.4 and detailed in Table 4.19. Despite the higher average wage, the policy's effect on the CPI and the GNP deflator is only marginal during the years immediately following its introduction because the subsidy decreases the wage rate paid by employers and thus lowers the selling prices of domestic products. Relatively lower prices make Canadian goods more competitive than foreign goods in both the domestic and the world markets for a time, but the advantage gained in the latter dissipates by 1985, when the initial improvement in the terms of trade is offset by a rising implicit price deflator for GNP. Therefore, real exports decline relative to the base case during the final four years of the simulation. Consumption expenditures, on the other hand, increase continuously, with the largest

⁹ There are several good papers discussing wage subsidies in Haverman and Palmer (1982).

The Ontario Economy 1982 - 1995

TABLE 4.4
Effect on Canada and Ontario of a wage subsidy policy
(yearly averages - changes from base case)

	1982-4	1985-7	1988-90
Canada			
GNP (change in millions of 1971\$)	642.6	583.6	256.4
GNP price deflator (1971 = 1.00)	0.01	0.05	0.11
Real net foreign trade (millions of 1971\$: change in exports less change in imports)	-4.2	-259.0	-618.0
Consumption (change in millions of 1971\$)	470.0	823.9	988.0
Ontario			
GDP (at factor cost) (change in millions of 1971\$)	261.6	250.5	155.1
Employment (change in thousands)	30.1	22.2	5.1
Real domestic product - goods (change in millions of 1971\$)	126.3	93.8	21.3
GDP (at factor cost) per employee (change in thousands of 1971\$)	-0.011	-0.027	-0.037

relative rise occurring in the final two years.

The effects of the wage subsidy scheme on Ontario's economy are similar to those on the national economy (see Tables 4.4, 4.20, and 4.21). Employment rises and the unemployment rate falls relative to the base-case projection. At the same time, the output deflator declines initially, then rises; real output increases throughout the period. Its composition is interesting. During the first four years following the introduction of the program, the level of output is more strongly affected in the goods-producing sector - the manufacturing industries in particular - than it is in the service industries. From 1986 on, however, the reverse occurs. The basis for this shift is the changing relative importance of various expenditure components. As we have seen, exports first rise, then decline relative to the base-case projection. Investment goods follow a similar pattern. Expenditures on consumer items, however, begin at a relatively high level and remain there. These patterns are reflected in the structure of industrial shares, because a large proportion of consumer expenditures are made on the service industries, such as retail trade. This fact helps to rationalize the strong growth that the service industries record in the latter half of the simulation. The goods-producing

Altering Some Key Assumptions

sector is projected to have its strongest growth earlier, when export and investment expenditures receive a positive stimulus.

It is interesting to compare the effects of the wage subsidy scheme with those of the investment tax credit.¹⁰ Both programs affect the supply side of the economy for at least part of the simulation period. The wage subsidy program makes labour relatively cheaper and the investment tax causes capital to be relatively cheaper. Thus, it should not be surprising that employment increases more dramatically under a wage subsidy, and investment expenditures respond more strongly under the investment tax credit. Timing differences, however, also distinguish the policies. The wage subsidy raises Ontario's real GDP by slightly more than \$160 million in the first year and peaks at an increase of \$340 million in the third; afterwards, the effect, while still positive, declines in magnitude - to \$160 million by 1990. In contrast, the investment tax credit raises real provincial GDP by \$90 million in the first year, and the relative increase levels off at approximately \$240 annually from 1983 to 1988. In 1989 and 1990, it is \$314 million and \$383 million respectively. Thus, in terms of real output gains, the wage subsidy has the larger immediate impact but the smaller long-run benefit. The behaviour of the price level also makes apparent the long-run natures of the alternative policies. It falls relative to the base case under the investment tax credit but rises eventually under a wage subsidy scheme.

These results suggest that although an investment tax credit may ultimately be a superior policy, the short-run impacts of wage subsidies are stronger and possibly more appropriate for short-run stabilization goals, particularly combating unemployment while incurring only slight increases in the price level.

An increase in the growth rates of the money supply

In this alternative projection, we examine the effects of an increase in the supply of money (see Table 4.5 and the breakdowns in Tables 4.22 to

¹⁰ Costs for the two are quite similar: the investment tax credit has an annual average cost of \$520 million from 1982 to 1985 and \$1220 million from 1986 to 1990, while the average cost of the wage subsidy scheme is \$560 million per year for the first four years and \$970 million for the last five years.

TABLE 4.5

Effect on Canada and Ontario of one-time capital outflow
(yearly averages - changes from base case)

	1982-4	1985-7	1988-90
Canada			
GNP (change in millions of 1971\$)	57.8	-186.6	-34.0
GNP price deflator (1971 = 1.00)	0.01	0.01	0.02
Exchange rate	-0.004	0.001	-0.003
Ontario			
GDP (at factor cost) (change in millions of 1971\$)	43.2	-65.3	8.0
Employment (change in thousands)	4.7	-3.3	2.5
Real domestic product - goods (change in millions of 1971\$)	20.4	-41.9	5.7
Real domestic product - services (change in millions of 1971\$)	20.6	-23.1	3.1
Gross domestic product per employee (change in thousands of 1971\$)	-0.003	-0.006	-0.004

4.24).¹¹ The assumed policy change is the Bank of Canada's increase in the upper and lower target bands for the growth rate of the nominal money supply (M1) by 3 per cent per year.¹²

The most immediate and direct result is a decline in both long- and short-term interest rates. In the first year of the simulation, short-term rates decline by sixty-nine basis points, long-term rates by eleven. During the next four years, the long-term rates increase gradually, remaining lower than those of the base case, but the policy's impact on short-term rates diminishes. These movements reflect the way in which FOCUS models interest rates. Nominal interest rates comprise a real interest rate and a term

11 Many papers and texts present the theoretical aspects of an increase in the supply of money. The reader is referred to Turnovsky (1977) for a thorough and even-handed approach to the theoretical aspects and to Courchene (1976; 1977; 1981) for an in-depth examination of recent Canadian monetary policy. The latter discusses whether the Bank of Canada actually follows a gradualist policy.

12 The supply of M1 is taken as exogenous, so the actual structure of the policy is a 3 per cent increase in the supply above the previously projected rates.

representing the expected rate of inflation.¹³ Increasing the money supply acts to depress the former while increasing the latter. Both factors influence long- and short-term rates in approximately the same manner, although the lag structure and coefficient estimates are different. Short-term interest rates, however, are more substantially influenced by the level of activity in the economy; its effect is sufficiently strong to decrease the policy's impact on short-term but not long-term rates. As shown in the table, the increased money supply has its greatest impact on GNP in 1985, the same year that the fall in short-term rates is the smallest.

In every year of the simulation, nominal GNP increases relative to the base case. Its higher level is divided between a real GNP increase and a price rise. In all years, the percentage increase is greater for prices than for real output. It is interesting to note, however, that the price component is smaller during the final four years than during the initial five. Essentially the phenomenon arises because aggregate supply increases after the years of lower interest rates.

The policy stimulates real output, initially because of investment expenditures and exports and then, during the latter years of the simulation, because of consumption expenditures. For Ontario, this shift indicates a relatively greater impact on real output during the first five years than is experienced by Canada as a whole. When exports and investment expenditures are less important, the effect in Ontario is relatively less than in Canada as a whole.

Employment in Ontario rises and the unemployment rate is projected to decline relative to the base case. For a given increase in real output, however, the resultant increase in employment is not as great for the monetary policy alternative as for the fiscal policy alternatives. This arises because increasing the money supply acts to depress the cost of capital, changing the relative price between the factors of production.

A one-time capital outflow

We set up this alternative to examine the impact on the Canadian economy of a large one-time outflow of capital, perhaps as the result of a Canadian firm's

13 The expectations terms used here are adaptive expectations. See Dungan (1981b) for an examination of the effect of using consistent expectations in the FOCUS model.

taking over a sizeable U.S. firm located in Canada.¹⁴ The scenario calls for a \$2 billion capital outflow in the first quarter of 1982.

The most immediate impression one receives on examining the projection (see Tables 4.6 and 4.25 through 4.27) is that a one-time capital outflow, even on such a scale, does not have large macroeconomic effects in the long term. Certainly, the transaction exerts initial downward pressure on the exchange rate; in the first year of the simulation it falls by 1 per cent. During subsequent years, however, the exchange rate fluctuates around the value projected in the base case, although the change is never as large as the change recorded in the initial year. In other words, the one-shot capital outflow imparts an element of cyclical instability to the foreign exchange market.¹⁵

A cyclical pattern is also apparent in the effects on the expenditure components of real GNP. Investment declines from 1984 through 1988 because demand falls and interest rates rise slightly. Consumption expenditures are also projected to vary, falling relative to the base case in 1982 and 1986 through to 1988. The net effect on real GNP is an initial increase for two years, followed by a relative decline in every year except 1989. The demand for Canadian exports follows the cyclical movements of the exchange rate relatively closely.¹⁶

The effects of the outflow on provincial output demonstrate the same cyclical pattern, but with different magnitudes. Real domestic product in the goods-producing industries is more sensitive to the cyclical variations than in the service-sector industries. The heavy manufacturing industries, such as primary metals, motor vehicles, and machinery, are particularly affected by

14 See Bank of Montreal (1981) for a discussion of the effects of large capital outflows.

15 This scenario is extremely sensitive to the assumption regarding capital mobility. As discussed earlier in this chapter, all these alternative projections assume a less-than-perfectly-mobile capital flow. If the degree of capital mobility were greater, the resulting cyclical pattern would be amplified because the initial drop in the exchange rate would also be greater. Alternatively, the Bank of Canada could, if it realized the size and temporary nature of the capital outflow, sterilize it, thereby maintaining the exchange rate and avoiding the resultant cyclical instability.

16 The demand for imports appears to be sensitive to fluctuations in the exchange rate and the terms of trade because there are no domestic substitutes for some of Canada's imports. This situation has a positive effect on the price level when the exchange rate falls and a negative one when it rises.

Altering Some Key Assumptions

TABLE 4.6

Effect on Canada and Ontario of an increase in the money supply
(yearly averages - change from base case)

	1982-4	1985-7	1988-90
Canada			
GNP (change in millions of 1971\$)	782.3	1332.9	956.3
GNP price deflator (1971 = 1.00)	0.026	0.058	0.016
Long-term interest rate - (change from projected rate)	0.391	-0.622	-0.607
Ontario			
GDP (at factor cost) (change in millions of 1971\$)	319.3	468.2	225
Employment (change in thousands)	23.1	34.0	7.0
Unemployment rate (change from 1982-4)	-0.39	-0.56	-0.11
Real domestic product - goods (change in millions of 1971\$)	187.1	270	87

the changes; of the service industries, the finance, insurance, and real estate group undergoes the least cyclical variation.

The impact on the provincial labour market is relatively small. The predominant effect is employment's responses to the rise and fall of aggregate output. The outflow does, however, operate on the labour market through two other channels. First, it exerts upward pressure on the term structure of interest rates during most of the simulated period; the higher interest rates make capital equipment relatively more expensive, and firms respond by decreasing their capital-labour ratio. Second, the change in relative costs has a lagged effect; in 1984, despite a decline in Ontario's real domestic product, total employment rises.

The effects of a rise in U.S. interest rates

Examining the impact on a Canadian economy of a rise in U.S. interest rates requires three scenarios.¹⁷ All assume that short-term interest rates south of the border rise in the first quarter of 1982 to 100 basis points above their

17 The impact of an exogenous rise in foreign interest rates is discussed in Courchene (1981). Also pertinent is the discussion by Sawyer, Dungan, and Jump (1980) of a different kind of foreign shock - namely an expansion in world output - and alternative Bank of Canada responses.

base-case values and stay at that level; long-term U.S. rates to rise gradually over one year and then remain 100 basis points above the base-case values. The effect on the Canadian economy depends on the exchange-rate and monetary-policy option the Bank of Canada elects to adopt in response to the higher U.S. interest rates. We examine three policy options.

In the first case, the Bank allows the exchange to adjust, clearing the foreign-exchange market, while maintaining its present targets for the money supply. We call this policy combination the flexible exchange rate option. The second policy alternative is to fix the exchange rate but still maintain the money-supply growth rates. This option is referred to here as a fixed exchange rate policy. (Under this regime the Bank of Canada must be willing and able to sterilize the effect on the money supply.) As the third alternative, the Bank adopts a regime to manage a floating exchange rate. Here the objective of monetary policy is to maintain the exchange rate at the base-case levels through the manipulation of domestic interest rates.¹⁸ In order to do so if the movement in U.S. interest rates is large, the Bank must abandon its gradualist approach to monetary policy. We refer to this policy combination as a managed exchange rate policy. In the following subsections, we first discuss in turn the results of each of the three alternative policy combinations, then compare the three for their effects on the domestic interest rate, real expenditures, and the GNP price deflator.

A flexible exchange rate regime

In this scenario, the Bank chooses a passive response, so a rise in U.S. interest rates causes a fall in the exchange rate and upward pressure on domestic interest rates. As shown in Table 4.7 and detailed in Table 4.28, initially there are two real effects. First, the fall in the exchange rate boosts exports and encourages the substitution of domestic for imported goods, which has a positive effect on real GNP. Second, in spite of the gradual rise in interest rates, investment expenditures rise, rather than decline, in response to the higher demand for domestic products. The net effect on real expenditures is, therefore, positive in the initial years of the shock.

18 Courchene contends that this has been the Bank's response to changes in U.S. interest rates, a claim that is substantiated in several statements by Gerald Bouey as the governor of the Bank of Canada (Bouey 1981a; 1981b).

TABLE 4.7

Effect on Canada and Ontario of a rise in U.S. interest rates, assuming a flexible exchange rate (yearly averages - changes from base case)

	1982-4	1985-7	1988-90
Canada			
GNP (changes in millions of 1971\$)	471.4	149.4	-376.8
GNP price deflator (1971 = 1.00)	0.03	0.06	0.07
Interest rate - industrial bond yield (change from projected rate)	0.21	0.46	0.50
Exchange rate (change from projected rate)	-0.014	-0.009	-0.01
Ontario			
GDP (at factor cost) (change in millions of 1971\$)	172.6	-4.6	-257.4
Employment (change in thousands)	13.7	8.2	-11.4
Real domestic product - goods (change in millions of 1971\$)	92.9	-10.2	-165.9

The increased demand results in a consumer price level that is progressively higher than the base-case projection (by 0.4 per cent, 0.9 per cent, 1.3 per cent, and 1.5 per cent) in each of the first four years of the shock.¹⁹ During the last five years of the simulation, the price level remains consistently higher than in the base case, offsetting the advantage gained by the lower exchange rate; therefore, the real volume of exports declines in the final four years. Investment expenditures begin to decline in 1986 because of high interest rates and the export slowdown.

A fixed exchange rate

In this case, the Bank of Canada maintains a constant foreign exchange rate with the U.S., offsetting capital flows by trading in the foreign-exchange market. It is able to maintain its money-supply growth targets because foreign reserves are exchanged for domestic reserves.

Initially, this policy combination appears appealing in the face of a rise

¹⁹ The Bank of Canada has defended its interference in the determination of the exchange rate because of the inflationary impact of a devaluation of the Canadian dollar (see Bouey 1981a). The results here seem to support this claim, at least in the short run.

The Ontario Economy 1982 - 1995

TABLE 4.8

Effect on Canada and Ontario of a rise in U.S. interest rates, assuming fixed exchange rates (yearly averages - changes from base case)

	1982-4	1985-7	1988-90
Canada			
GNP (change in millions of 1971\$)	123.0	302.0	446.5
GNP price deflator (1971 = 1)	0	0	0
Interest rate - industrial bond yield (change from projected rate)	0.01	0.06	0.06
Exchange rate (change from projected rate)	0	0	0
Ontario			
GDP (at factor cost) (change in millions of 1971\$)	9.7	10.6	7.7
Employment (change in thousands)	0	-1.1	-1.8
Real domestic product - goods (change in millions of 1971\$)	-4.2	-6.5	-8.2

in U.S. interest rates (the projected national results are in Tables 4.8 and 4.31). Real GNP rises slightly, largely because of increased demand for exports, and the impact on the GNP price deflator, although positive, is only marginal. The problem appears when we look at the Bank's foreign-exchange reserves. The policy proves very expensive and, therefore, untenable in the long run.²⁰

A managed exchange rate

In this case, the Bank of Canada is assumed to adopt an annual target exchange rate, which it achieves through manipulation of the money supply and domestic interest rates. (The targets used in the simulation are the exchange rates generated in the absence of the higher U.S. interest rates.) Therefore, when U.S. interest rates rise, Canadian rates rise in response. The long-term industrial bond yield rises gradually in the first four years but settles at 70 basis points above the base-case projection.²¹

20 This conclusion merely substantiates traditional economic wisdom, which says that sterilization techniques cannot be maintained indefinitely in the face of a permanent change.

21 The Canadian bond rate does not rise the full 100 basis points because

The policy combination has a negative effect on real expenditures, with investment suffering the largest relative decline. An initially negative impact on prices reverses itself after two years because the higher interest rates stifle investment activity, shrinking future supply and thus raising the price level (see Tables 4.9 and 4.34).

Alternative policy responses compared

Obviously, the alternative policy responses of the Bank of Canada have quite different results. Figures 4.1 to 4.3 compare their effects on key macro-economic variables for all Canada.

Figure 4.1 shows the projections for industrial bond yields. The policy that induces the largest increases is the regime of a managed exchange rate. The floating exchange rate also results in a rise in bond yields, but lower ones than the managed exchange rate brings about. The fixed exchange rate effectively isolates the domestic economy from the rise in the U.S. interest rates. It is interesting to note that none of the alternatives results in domestic interest rates rising 100 or more basis points. There are two reasons. First, capital flows are not perfectly mobile, so the Canada-U.S. interest rate differential can change and these differences do persist. Second, the experiment is structured so that U.S. long-term rates rise gradually. By the time they have risen the full 100 basis points, other changes induced by the shock are also affecting Canadian interest rates; most important among them are the level of economic activity and the pattern of the expected rate of inflation.

Figure 4.2 shows the price deflator for GNE under the alternative policy regimes. Again, the fixed exchange rate effectively isolates the domestic economy; there is only slight upward pressure on the price level because the sterilization of capital offsets most of the domestic impacts. Under the flexible exchange rate, the price level rises to a peak of 1.7 per cent above the base case in 1985 and 1986, declines slightly, then rises again. This policy option induces an inflation rate that is continuously higher than inflation under either of the other policies. The managed exchange rate results in a price level that drops initially but rises relative to the base case

the assumption of less-than-perfectly mobile capital permits a Canada-U.S. differential in interest rates to persist over long periods.

The Ontario Economy 1982 - 1995

TABLE 4.9

Effect on Canada and Ontario of a rise in U.S. interest rates, assuming a managed exchange rate (yearly averages - changes from base case)

	1982-4	1985-7	1988-90
Canada			
GNP (change in millions of 1971\$)	-103.1	-379.1	-704.1
GNP price deflator (1971 = 1.00)	-0.0	0.0	0.03
Interest rate - industrial bond yield (change from projected rate)	0.35	0.69	0.69
Exchange rate (change from projected rate)	0	0	0
Ontario			
GDP (at factor cost) (change in millions of 1971\$)	-61.1	-191.4	-325.9
Employment (change in thousands)	-3.9	-7.6	-13.3
Real domestic product - goods (change in millions of 1971\$)	-40.2	-111.0	-182.3

after 1984.

The three policies' effects on real GNP are compared in Figure 4.3. Under a fixed exchange rate policy, real GNP rises continuously, pushed by the effect of the terms of trade. In contrast, it falls relative to the base case under managed exchange rates, with the largest decline occurring at the end of the simulation period. Under a policy of flexible exchange rates, it first rises - significantly more than under a fixed rate - and then declines relative to the base case, although the decline is not as great as in the case of managed exchange rates.

On the surface, the alternative of a fixed exchange rate appears to be the superior policy choice. Recall, however, that the rate is maintained by the Bank of Canada's offsetting capital flows by trading foreign for domestic reserves. Even assuming a less-than-perfectly-mobile capital flow, the program would cost \$850 million per year in foreign reserves. At this rate, the Bank of Canada would exhaust its supplies of foreign reserves long before the end of the simulation period, unless it continually borrowed abroad.²²

22 To keep the experiment simple, we assume in the model that the Bank of Canada has an endless supply of foreign reserves. Note this is not equivalent to assuming the Bank's borrowing abroad, which would increase the stock of Canadian debt held outside the country; the servicing of

Figure 4.1
Effect of a rise in U.S. interest rates on individual bond yields

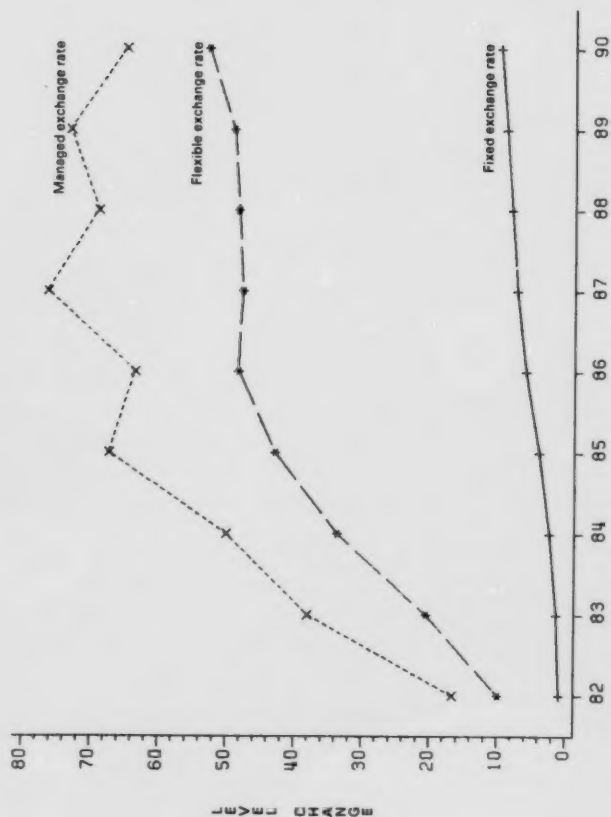


Figure 4.2
Effect of a rise in U.S. interest rates on GNP price deflator

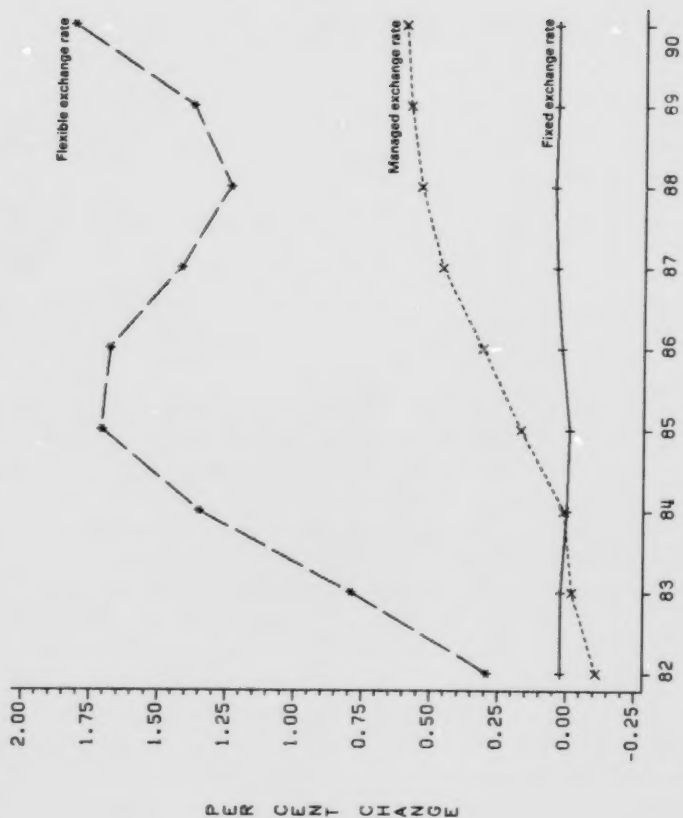
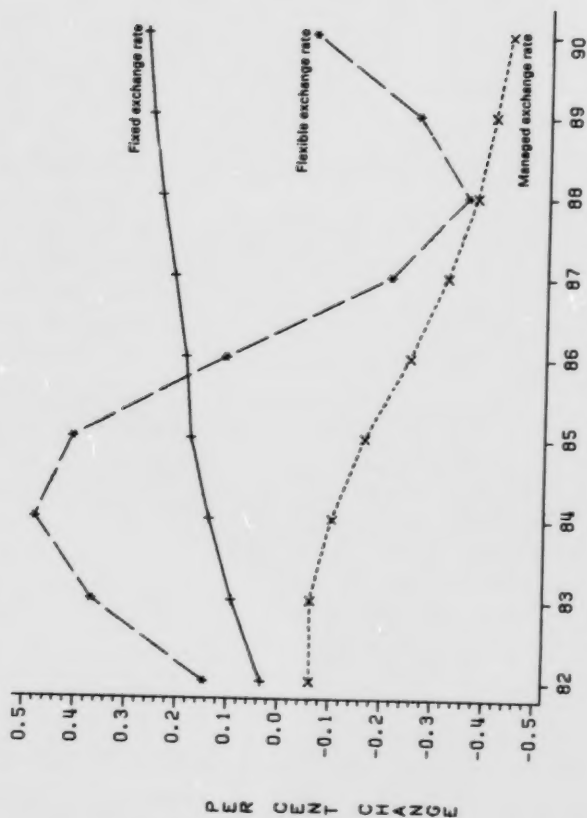


Figure 4.3
Effect of a rise in U.S. interest rates on real GNP



Moreover, the cost would rise if the degree of capital mobility were increased. Thus, if capital were more mobile than is assumed in the model, a policy of a permanently fixed exchange rate would become even less tenable.

Looking at the other alternatives, we see that the choice between a flexible exchange rate and a managed exchange rate involves a trade-off between inflation and GNP growth. Under the former, the choice opts for a higher rate of GNP growth at the cost of a higher rate of inflation. Alternatively, managed exchange rates result in a reduction in the GNP growth rate but less inflation.²³

The Ontario results of the sensitivity test appear in Tables 4.29, 4.30, 4.32, 4.33, 4.35, and 4.36. The patterns are clearly similar to those for all Canada. Notice, however, that the real effects, both positive and negative, are greater for Ontario than for Canada as a whole because the province has a larger-than-average share of the industries that are most affected by foreign financial shocks - export and import-competing industries and investment industries.

this debt would have serious implications for the balance of payments and the macroeconomy.

- 23 As we have seen, the projection for a policy of managed exchange rates identifies the resultant high domestic interest rates as pushing down investment and thus causing upward price pressure in the future when the capital stock (and therefore potential output) is smaller than in the base case. If U.S. interest rates did jump, the federal government might consider responding with an increase in the investment tax credit of the type discussed elsewhere in this chapter. Such a policy would maintain the equilibrium between returns to investment and money markets, thereby avoiding the detrimental effects of high interest rates.

Table 4.10
National effects of increased government expenditures
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT	0.83	1.43	1.89	2.03	1.88	1.79	2.16	2.86	3.77
IMPLICIT PRICE DEFATOR FOR GNP	0.51	1.01	1.50	1.78	1.87	1.87	2.37	3.07	3.87
REAL GROSS NATIONAL PRODUCT	0.32	0.41	0.39	0.24	0.01	-0.18	-0.20	-0.11	-0.10
EXPENDITURE ON PERSONAL CONSUMPTION	0.03	0.17	0.28	0.35	0.35	0.30	0.26	0.32	0.43
INVESTMENT BY GOVERNMENTS	1.82	1.78	1.75	1.72	1.67	1.63	1.58	1.54	1.49
INVESTMENT EXPENDITURE	0.21	0.49	0.48	0.05	-0.54	-0.82	-0.89	-0.86	-0.84
RESIDENTIAL CONSTRUCTION	-0.16	-0.46	-0.56	-0.53	-0.47	-0.52	-0.78	-1.09	-1.41
NON-RESIDENTIAL AND MACH. & EQUIP.	0.31	0.74	0.78	0.20	-0.55	-1.01	-0.78	-1.09	-1.41
EXPORTS	0.07	0.07	-0.09	-0.41	-0.85	-1.17	-1.16	-0.46	-0.33
IMPORTS	0.63	0.75	0.81	0.73	0.55	0.48	0.56	0.79	0.88
CAPACITY UTILIZATION RATE *	0.00	0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
UNEMPLOYMENT RATE *	-0.14	-0.28	-0.33	-0.28	-0.18	-0.10	-0.10	-0.21	-0.29
EMPLOYMENT	0.25	0.49	0.56	0.48	0.31	0.17	0.18	0.35	0.49
NARROWLY DEFINED MONEY SUPPLY, M1	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
FINANCE CO. 90-DAY PAPER RATE *	0.18	0.31	0.41	0.45	0.41	0.39	0.47	0.64	0.82
INDUSTRIAL BOND RATE *	0.15	0.26	0.37	0.47	0.53	0.60	0.71	0.82	0.94
CONSUMER PRICE INDEX	0.45	0.91	1.26	1.40	1.38	1.45	1.90	2.52	3.13
AVERAGE ANNUAL WAGES AND SALARIES	0.25	0.75	1.28	1.63	1.73	1.74	1.97	2.52	3.28
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	0.08	-0.01	-0.07	-0.13	-0.19	-0.23	-0.23	-0.26	-0.33
EXCHANGE RATE (US \$/CDM \$)	-0.75	-1.28	-1.50	-1.43	-1.13	-1.23	-2.15	-2.79	-3.20
TERMS OF TRADE (PX/PM)	0.08	0.14	0.36	0.64	0.88	0.97	0.83	0.98	1.24
BALANCE ON CURRENT ACCOUNT (\$ MILL) *	-616	-782	-859	-992	-1180	-1759	-2501	-2801	-3390
CHANGE IN FOREIGN RESERVES (\$ MILL) *	0	0	0	0	0	0	0	0	0
CONSOLIDATED GOVERNMENT BALANCE (\$ MILL) *	-341	-44	-121	-713	-1540	-1946	-1171	-129	-73
PERSONAL SAVINGS RATE (%) *	-0.01	-0.01	0.04	0.10	0.10	-0.00	-0.18	-0.24	-0.19
NOMINAL AFTER-TAX CORPORATE PROFITS	3.03	3.38	2.84	1.49	0.20	-0.11	1.27	2.68	2.67
REAL PERSONAL DISPOSABLE INCOME	0.02	0.19	0.38	0.53	0.53	0.35	0.12	0.15	0.35

NOTE * indicates change in levels.

Table 4.11
Effects on Ontario of increased government expenditures
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
PROVINCIAL GROSS DOMESTIC PRODUCT	0.84	1.52	1.99	2.12	1.96	1.86	2.32	2.22	4.13
REAL PROVINCIAL GDP AT FACTOR COST	0.33	0.50	0.51	0.35	0.08	-0.12	-0.11	0.06	0.13
DEFLATOR, PROV'L GDP AT FACTOR COST	0.55	1.08	1.55	1.86	1.96	2.07	2.50	3.27	4.16
REAL PERSONAL DISP. INCOME PER CAP.	0.04	0.24	0.45	0.59	0.59	0.40	0.21	0.21	0.59
ANNUAL WAGES & SALARIES PER EMPLOYEE	0.21	0.68	1.21	1.58	1.72	1.76	2.00	2.57	3.40
GDP AT FACTOR COST PER EMPLOYEE	0.08	-0.01	-0.07	-0.14	-0.21	-0.26	-0.25	-0.27	-0.35
LABOUR FORCE	0.05	0.10	0.12	0.09	0.05	0.02	0.02	0.06	0.08
EMPLOYMENT	0.25	0.51	0.59	0.49	0.30	0.14	0.15	0.33	0.47
UNEMPLOYMENT RATE (%) *	-0.18	-0.37	-0.44	-0.37	-0.23	-0.11	-0.12	-0.26	-0.37
REAL DOMESTIC PRODUCT - MANUFACTURING	0.12	0.46	0.92	0.24	-0.25	-0.69	-0.69	-0.35	-0.17
RDP - GOODS-PRODUCING INDUSTRIES	0.18	0.48	0.93	0.27	-0.16	-0.54	-0.53	-0.22	-0.06
RDP - SERVICE INDUSTRIES	0.50	0.64	0.63	0.50	0.30	0.16	0.18	0.29	0.31

* See note to Table 4.10.

Table 4.12
Effects of increased government expenditures on Ontario's real domestic product by industry
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	0.10	0.26	0.34	0.29	0.12	-0.02	0.02	0.22	0.37
2 FORESTRY	0.18	0.34	0.35	0.15	-0.22	-0.52	-0.55	-0.35	-0.25
3 MINERAL FUEL MINES & WELLS	0.22	0.46	0.54	0.41	0.10	-0.22	-0.24	-0.00	0.15
4 OTHER MINES & QUARRIES	0.07	0.26	0.24	-0.07	-0.57	-0.88	-0.99	-0.75	-0.67
5 FOOD, FEED, BEVERAGES & TOBACCO	0.15	0.33	0.44	0.45	0.38	0.31	0.37	0.56	0.74
6 TEXTILES & CLOTHING	-0.14	0.21	0.43	0.49	0.38	0.09	-0.08	0.06	0.31
7 WOOD & FURNITURE	0.12	0.29	0.30	0.06	-0.34	-0.66	-0.70	-0.49	-0.38
8 PAPER, PRINTING & ALLIED INDUSTRIES	0.31	0.36	0.36	0.31	-0.00	-0.26	-0.30	-0.11	-0.01
9 PRIMARY METAL & METAL FABRICATING	0.04	0.36	0.32	0.22	-0.32	1.00	-1.01	-0.70	-0.56
10 MOTOR VEHICLES & PARTS	0.25	0.76	0.60	-0.19	-1.32	-2.11	-2.12	-1.75	-1.38
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	-0.02	0.54	0.69	0.17	-0.67	-2.35	-1.28	-0.72	-0.36
12 ELECTRICAL, RUBBER & PETROLEUM PRODUCTS	0.07	0.40	0.57	0.30	-0.21	-0.59	-0.74	-0.36	-0.04
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	0.29	0.55	0.64	0.50	0.21	-0.09	-0.11	0.13	0.30
14 NON-METALLIC MINERAL PRODUCTS	0.16	0.45	0.68	0.18	-0.27	-0.68	-0.71	-0.45	-0.31
15 OTHER MANUFACTURING INDUSTRIES	-0.11	0.31	0.60	0.69	0.58	0.24	0.00	0.17	0.47
TOTAL MANUFACTURING	0.12	0.46	0.52	0.24	-0.25	-0.69	-0.68	-0.35	-0.17
16 CONSTRUCTION	0.40	0.59	0.55	0.24	-0.16	-0.46	-0.45	-0.26	-0.16
17 ELECTRIC POWER, WATER & GAS UTILITIES	0.55	0.71	0.76	0.68	0.50	0.36	0.41	0.59	0.71
TOTAL GOODS-PRODUCING INDUSTRIES	0.18	0.48	0.53	0.27	-0.16	-0.54	-0.53	-0.22	-0.06
18 TRANSPORTATION & STORAGE	0.43	0.59	0.57	0.38	0.10	-0.08	0.01	0.18	0.24
19 COMMUNICATION	0.58	0.72	0.71	0.56	0.33	0.16	0.19	0.31	0.34
20 TRADE	0.36	0.60	0.69	0.60	0.37	0.16	0.14	0.35	0.54
21 FINANCE, INSURANCE & REAL ESTATE	0.17	0.26	0.23	0.15	-0.02	-0.08	-0.05	-0.01	-0.02
22 OTHER SERVICE INDUSTRIES	0.92	1.01	0.94	0.78	0.57	0.43	0.48	0.53	0.48
TOTAL SERVICE INDUSTRIES	0.50	0.64	0.63	0.50	0.30	0.16	0.19	0.29	0.31
23 GOVERNMENT SECTOR	-0.10	-0.18	-0.24	-0.24	-0.21	-0.21	-0.28	-0.37	-0.45
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	0.33	0.50	0.51	0.35	0.09	-0.12	-0.11	0.06	0.13

Table 4.13
National effects of an increase in personal income taxes
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT	-0.65	-1.46	-2.24	-2.58	-2.42	-2.09	-2.10	-2.70	-3.67
IMPLICIT PRICE DEFATOR FOR GNP	-0.42	-1.03	-1.72	-2.20	-2.33	-2.33	-2.50	-3.04	-3.87
REAL GROSS NATIONAL PRODUCT	-0.23	-0.43	-0.52	-0.39	-0.09	0.24	0.41	0.35	0.21
EXPENDITURE ON PERSONAL CONSUMPTION	-0.38	-0.56	-0.76	-0.89	-0.89	-0.79	-0.65	-0.60	-0.64
EXPENDITURE BY GOVERNMENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INVESTMENT EXPENDITURE	-0.22	-0.63	-0.79	-0.35	0.47	1.23	1.52	1.20	0.67
RESIDENTIAL CONSTRUCTION	-0.09	-0.12	-0.12	-0.35	0.43	0.55	0.83	1.22	1.53
NON-RESIDENTIAL AND MACH. & EQUIP.	-0.26	-0.77	-1.05	-0.53	0.16	1.50	1.68	1.38	1.33
EXPORTS	-0.14	-0.34	-0.31	0.15	0.72	1.29	1.35	1.35	1.35
IMPORTS	-0.42	-0.64	-0.85	-0.82	-0.56	-0.37	-0.32	-0.48	-0.73
CAPACITY UTILIZATION RATE *	-0.00	-0.00	-0.00	-0.00	0.00	0.01	0.00	0.00	0.00
UNEMPLOYMENT RATE *	0.10	0.26	0.38	0.36	0.23	0.07	0.00	0.07	0.20
EMPLOYMENT	-0.17	-0.44	-0.64	-0.61	-0.39	-0.13	-0.01	-0.12	-0.34
NARROWLY DEFINED MONEY SUPPLY, M1	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
FINANCE CO. 90-DAY PAPER RATE *	-0.14	-0.32	-0.50	-0.58	-0.54	-0.47	-0.47	-0.60	-0.82
INDUSTRIAL BOND RATE *	-0.14	-0.27	-0.42	-0.56	-0.64	-0.70	-0.79	-0.89	-1.02
CONSUMER PRICE INDEX	-0.49	-1.09	-1.65	-1.92	-1.90	-1.80	-2.04	-2.60	-3.36
AVERAGE ANNUAL WAGES AND SALARIES	-0.22	-0.76	-1.45	-1.98	-2.18	-2.11	-2.11	-2.44	-3.15
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	-0.07	-0.06	0.01	0.12	0.21	0.30	0.32	0.32	0.34
EXCHANGE RATE (US \$/GDM \$)	0.90	1.74	2.21	2.14	1.69	1.31	1.94	2.87	4.02
TERMS OF TRADE (PX/PM)	0.10	0.12	-0.11	-0.52	-0.87	-1.12	-1.04	-0.99	-1.04
BALANCE ON CURRENT ACCOUNT (\$ MILL) *	525	622	693	814	973	1327	2055	2663	3241
CHANGE IN FOREIGN RESERVES (\$ MILL) *	0	0	0	0	0	0	0	0	0
CONSOLIDATED GOVERNMENT BALANCE (\$ MILL) *	1079	269	-225	87	1020	1827	1379	-133	-1620
PERSONAL SAVINGS RATE (%) *	-0.39	-0.12	-0.05	-0.06	-0.06	0.01	0.24	0.41	0.45
NOMINAL AFTER-TAX CORPORATE PROFITS	-2.31	-3.85	-4.03	-2.50	-0.39	0.95	0.43	-0.82	-3.10
REAL PERSONAL DISPOSABLE INCOME	-0.70	-0.71	-0.87	-1.05	-1.08	-0.86	-0.26	-0.53	-0.25

* See note to Table 4.10.

Table 4.14
Effects on Ontario of an increase in personal income taxes
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
PROVINCIAL GROSS DOMESTIC PRODUCT	-0.67	-1.55	-2.33	-2.66	-2.47	-2.11	-2.16	-2.86	-3.93
REAL PROVINCIAL GDP AT FACTOR COST	-0.25	-0.53	-0.67	-0.53	-0.17	0.22	0.39	0.27	0.05
DEFLATOR, PROV'L GDP AT FACTOR COST	-0.41	-1.06	-1.74	-2.22	-2.38	-2.38	-2.57	-3.17	-4.08
REAL PERSONAL DISP. INCOME PER CAP.	-0.72	-0.80	-0.98	-1.17	-1.16	-0.91	-0.52	-0.37	-0.51
ANNUAL WAGES & SALARIES PER EMPLOYEE	-0.19	-0.70	-1.37	-1.93	-2.18	-2.14	-2.16	-2.51	-3.28
GDP AT FACTOR COST PER EMPLOYEE	-0.08	-0.07	0.00	0.12	0.22	0.32	0.35	0.34	0.36
LABOUR FORCE	-0.04	-0.10	-0.13	-0.12	-0.07	-0.01	0.02	-0.01	-0.05
EMPLOYMENT	-0.17	-0.47	-0.67	-0.65	-0.40	-0.10	0.04	-0.08	-0.31
UNEMPLOYMENT RATE (%) *	0.12	0.34	0.50	0.48	0.30	0.08	-0.02	0.06	0.24
REAL DOMESTIC PRODUCT - MANUFACTURING	-0.21	-0.65	-0.90	-0.67	-0.00	0.75	1.10	0.85	0.41
RDP - GOODS-PRODUCING INDUSTRIES	-0.22	-0.63	-0.86	-0.64	-0.05	0.61	0.92	0.69	0.28
RDP - SERVICE INDUSTRIES	-0.33	-0.59	-0.70	-0.60	-0.33	-0.04	0.07	-0.00	-0.15

* See note to Table 4.10.

Table 4.15
Effects of an increase in personal income taxes on Ontario's real domestic product by industry
(percentage changes from base case)

	1992	1993	1994	1995	1996	1997	1998	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	-0.18	-0.52	-0.75	-0.75	-0.53	-0.25	-0.11	-0.23	-0.48
2 FORESTRY	-0.23	-0.53	-0.69	-0.49	0.01	0.34	0.82	0.70	0.42
3 MINERAL FUEL MINES & WELLS	-0.12	-0.48	-0.70	-0.62	-0.21	0.32	0.60	0.19	0.13
4 OTHER MINES & QUARRIES	-0.11	-0.45	-0.59	-0.37	-0.42	1.12	1.44	1.26	0.30
5 FOOD, FEED, BEVERAGES & TOBACCO	-0.21	-0.56	-0.92	-0.91	-0.82	-0.64	-0.55	-0.67	-0.91
6 TEXTILES & CLOTHING	-0.46	-0.79	-1.11	-1.26	-1.12	-0.71	-0.24	-0.15	-0.24
7 WOOD & FURNITURE	-0.26	-0.55	-0.70	-0.46	0.08	0.66	0.86	0.83	0.54
8 PAPER, PRINTING & ALLIED INDUSTRIES	-0.21	-0.50	-0.66	-0.52	-0.08	0.37	0.62	0.50	0.24
9 PRIMARY METAL & METAL FABRICATING	-0.11	-0.52	-0.72	-0.40	0.35	1.17	1.54	1.30	0.86
10 MOTOR VEHICLES & PARTS	-0.57	-1.27	-1.55	-0.80	0.71	2.42	3.00	2.40	1.75
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	0.12	-0.47	-0.83	-0.39	0.85	1.87	2.29	1.78	0.95
12 ELECTRICAL PRODUCTS	-0.15	-0.59	-0.90	-0.71	-0.04	0.76	1.19	0.93	0.39
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	-0.16	-0.54	-0.78	-0.70	-0.32	0.18	0.46	0.32	-0.01
14 NON-METALLIC MINERAL PRODUCTS	-0.20	-0.64	-0.81	-0.51	0.12	0.83	1.19	1.03	0.63
15 OTHER MANUFACTURING INDUSTRIES	-0.22	-0.54	-0.88	-1.07	-0.88	-0.54	-0.01	0.09	-0.14
TOTAL MANUFACTURING	-0.21	-0.65	-0.90	-0.67	-0.00	0.75	1.10	0.85	0.41
16 CONSTRUCTION	-0.28	-0.65	-0.74	-0.42	0.15	0.72	0.96	0.81	0.47
17 ELECTRIC POWER, WATER & GAS UTILITIES	-0.25	-0.56	-0.76	-0.73	-0.50	-0.23	-0.12	-0.26	-0.50
TOTAL GOODS-PRODUCING INDUSTRIES	-0.22	-0.63	-0.86	-0.64	-0.05	0.61	0.92	0.69	0.28
18 TRANSPORTATION & STORAGE	-0.27	-0.56	-0.66	-0.47	-0.08	0.29	0.38	0.20	-0.05
19 COMMUNICATION	-0.29	-0.59	-0.67	-0.44	-0.24	0.28	0.18	0.09	-0.09
20 TRADE	-0.45	-0.71	-0.83	-0.61	-0.71	-0.33	-0.08	-0.18	-0.45
21 FINANCE, INSURANCE & REAL ESTATE	-0.59	-0.87	-0.98	-0.69	-0.29	-0.08	0.00	-0.02	-0.08
22 OTHER SERVICE INDUSTRIES	-0.32	-0.55	-0.61	-0.47	-0.19	0.07	0.12	0.05	-0.05
TOTAL SERVICE INDUSTRIES	-0.33	-0.59	-0.70	-0.60	-0.33	-0.04	0.07	-0.00	-0.15
23 GOVERNMENT SECTOR	0.10	0.22	0.31	0.33	0.28	0.24	0.28	0.37	0.50
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	-0.25	-0.53	-0.67	-0.53	-0.17	0.22	0.39	0.27	0.05

Table 4.10

National effects of doubling investment tax credits
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT	0.02	0.34	0.45	0.39	0.20	-0.01	-0.03	0.17	0.37
IMPLICIT PRICE DEFLATOR FOR GNP	-0.12	0.02	0.08	0.03	-0.12	-0.29	-0.35	-0.25	-0.12
REAL GROSS NATIONAL PRODUCT	0.13	0.32	0.38	0.35	0.32	0.29	0.32	0.42	0.49
EXPENDITURE ON PERSONAL CONSUMPTION	0.01	0.09	0.19	0.21	0.23	0.23	0.22	0.24	0.32
EXPENDITURE BY GOVERNMENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INVESTMENT EXPENDITURE	0.33	0.59	0.75	0.65	0.43	0.30	0.40	0.58	0.89
RESIDENTIAL CONSTRUCTION	-0.02	-0.08	-0.09	0.03	0.10	0.14	0.13	0.05	0.01
NON-RESIDENTIAL AND MACH. & EQUIP.	0.42	0.89	0.99	0.81	0.51	0.34	0.46	0.82	1.08
EXPORTS	0.28	0.58	0.78	0.67	0.61	0.59	0.70	0.88	0.93
IMPORTS	0.09	0.28	0.44	0.34	0.26	0.24	0.26	0.37	0.48
CAPACITY UTILIZATION RATE *	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01
UNEMPLOYMENT RATE *	-0.01	-0.10	-0.16	-0.14	-0.10	-0.07	-0.07	-0.12	-0.17
EMPLOYMENT	0.01	0.17	0.27	0.23	0.17	0.11	0.11	0.20	0.29
NARROWLY DEFINED MONEY SUPPLY, M1	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
FINANCE CO. 90-DAY PAPER RATE *	0.00	0.08	0.10	0.09	0.04	-0.00	-0.01	0.04	0.08
INDUSTRIAL BOND RATE *	0.00	0.05	0.06	0.08	0.07	0.06	0.06	0.07	0.06
CONSUMER PRICE INDEX	0.01	0.17	0.17	0.12	-0.06	-0.21	-0.21	-0.09	-0.03
AVERAGE ANNUAL WAGES AND SALARIES	0.03	0.13	0.26	0.32	0.22	0.06	0.01	0.06	0.25
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	0.16	0.22	0.19	0.20	0.22	0.23	0.26	0.29	0.29
EXCHANGE RATE (US \$/CDN \$)	-0.57	-0.82	-0.58	-0.56	-0.24	-0.12	-0.31	-0.60	-0.43
TERMS OF TRADE (PX/PM)	-0.41	-0.46	-0.35	-0.41	-0.33	-0.38	-0.31	-0.59	-0.43
BALANCE ON CURRENT ACCOUNT (\$ BILL) *	-272	-133	8	-183	30	-65	-198	-285	-32
CHANGE IN FOREIGN RESERVES (\$ BILL) *	0	0	0	0	0	0	0	0	0
CONSOLIDATED GOVERNMENT BALANCE (\$ BILL) *	-731	-263	-336	-742	-1262	-1592	-1392	-876	-967
PERSONAL SAVINGS RATE (%) *	-0.01	-0.02	0.06	0.07	0.10	0.08	0.02	-0.02	0.04
NOMINAL AFTER-TAX CORPORATE PROFITS	2.82	3.92	3.38	2.71	2.14	1.85	2.37	3.15	3.14
REAL PERSONAL DISPOSABLE INCOME	-0.00	0.07	0.27	0.31	0.37	0.33	0.23	0.22	0.38

* See note to Table 4.10.

Table 4.17
Effects on Ontario of doubling investment tax credits
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
PROVINCIAL GROSS DOMESTIC PRODUCT	0.09	0.47	0.60	0.50	0.31	0.09	0.07	0.29	0.51
REAL PROVINCIAL GDP AT FACTOR COST	0.19	0.45	0.53	0.49	0.44	0.38	0.42	0.54	0.64
DEFLATOR, PROV'L GDP AT FACTOR COST	-0.11	0.05	0.11	0.05	-0.11	-0.28	-0.34	-0.24	-0.09
REAL PERSONAL DISP. INCOME PER CAP.	0.02	0.13	0.32	0.36	0.41	0.35	0.23	0.27	0.45
ANNUAL WAGES & SALARIES PER EMPLOYEE	0.04	0.13	0.25	0.32	0.23	0.10	0.02	0.09	0.26
GDP AT FACTOR COST PER EMPLOYEE	0.17	0.24	0.20	0.21	0.23	0.24	0.27	0.30	0.30
LABOUR FORCE EMPLOYMENT	0.01	0.05	0.07	0.06	0.04	0.03	0.03	0.06	0.07
UNEMPLOYMENT RATE (%) *	0.03	0.21	0.32	0.27	0.21	0.15	0.15	0.24	0.34
	-0.02	-0.15	-0.23	-0.20	-0.15	-0.11	-0.11	-0.18	-0.25
REAL DOMESTIC PRODUCT - MANUFACTURING	0.30	0.77	0.93	0.81	0.75	0.61	0.64	0.87	1.11
ROP - GOODS-PRODUCING INDUSTRIES	0.27	0.69	0.92	0.72	0.66	0.54	0.57	0.78	0.98
ROP - SERVICE INDUSTRIES	0.17	0.36	0.41	0.40	0.36	0.33	0.37	0.47	0.53

* See note to Table 4.10.

Table 4.18
Effects of doubling investment tax credits on Ontario's real domestic product by industry
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	0.13	0.37	0.49	0.46	0.45	0.41	0.43	0.54	0.65
2 FORESTRY	0.19	0.53	0.68	0.60	0.54	0.47	0.50	0.56	0.65
3 MINERAL FUEL MINES & WELLS	0.11	0.34	0.54	0.67	0.65	0.55	0.53	0.76	0.82
4 OTHER MINES & QUARRIES	0.26	0.69	0.85	0.73	0.65	0.56	0.61	0.83	0.90
5 FOOD, FEED, BEVERAGES & TOBACCO	0.11	0.28	0.37	0.38	0.37	0.34	0.35	0.44	0.52
6 TEXTILES & CLOTHING	0.12	0.40	0.50	0.60	0.68	0.59	0.52	0.59	0.81
7 WOOD & FURNITURE	0.21	0.55	0.70	0.61	0.54	0.46	0.50	0.67	0.84
8 PAPER PRINTING & ALLIED INDUSTRIES	0.17	0.48	0.61	0.55	0.52	0.46	0.48	0.63	0.78
9 PRIMARY METALS & METAL FABRICATING	0.32	0.80	0.96	0.82	0.75	0.61	0.65	0.91	1.16
10 MOTOR VEHICLES & PARTS	0.52	1.60	1.82	1.19	1.31	1.00	1.20	1.75	2.20
11 MACHINERY & OTH.	0.55	1.20	1.38	1.19	1.02	0.74	0.78	1.15	1.59
12 ELECTRICAL PRODUCTS	0.36	0.80	0.96	0.84	0.77	0.58	0.57	0.79	1.11
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	0.21	0.55	0.68	0.63	0.62	0.53	0.53	0.68	0.86
14 NON-METALLIC MINERAL PRODUCTS	0.30	0.69	0.82	0.73	0.63	0.52	0.56	0.79	0.98
15 OTHER MANUFACTURING INDUSTRIES	0.18	0.43	0.63	0.65	0.76	0.64	0.52	0.58	0.84
TOTAL MANUFACTURING	0.30	0.77	0.93	0.81	0.75	0.61	0.64	0.87	1.11
16 CONSTRUCTION	0.24	0.52	0.59	0.59	0.38	0.30	0.37	0.56	0.68
17 ELECTRIC POWER, WATER & GAS UTILITIES	0.14	0.34	0.41	0.38	0.35	0.31	0.33	0.44	0.54
TOTAL GOODS-PRODUCING INDUSTRIES	0.27	0.59	0.82	0.72	0.66	0.54	0.57	0.78	0.98
18 TRANSPORTATION & STORAGE	0.23	0.48	0.51	0.47	0.40	0.35	0.41	0.55	0.62
19 COMMUNICATION	0.19	0.39	0.43	0.42	0.37	0.33	0.38	0.49	0.56
20 TRADE	0.13	0.38	0.52	0.46	0.45	0.38	0.38	0.50	0.66
21 FINANCE, INSURANCE & REAL ESTATE	0.15	0.29	0.32	0.33	0.31	0.31	0.35	0.42	0.45
22 OTHER SERVICE INDUSTRIES	0.20	0.36	0.37	0.37	0.32	0.31	0.37	0.46	0.48
TOTAL SERVICE INDUSTRIES	0.17	0.36	0.41	0.40	0.36	0.33	0.37	0.47	0.53
23 GOVERNMENT SECTOR	0.00	-0.02	-0.01	0.01	0.06	0.08	0.08	0.04	0.03
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	0.19	0.45	0.53	0.48	0.44	0.38	0.42	0.54	0.64

Table 4.19
National effects of a wage subsidy policy
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT	0.19	0.68	1.12	1.40	1.55	1.67	1.97	2.52	3.18
IMPLICIT PRICE DEFLATOR FOR GNP	-0.11	0.17	0.55	0.89	1.16	1.42	1.79	2.36	3.05
REAL GROSS NATIONAL PRODUCT	0.30	0.50	0.57	0.50	0.39	0.25	0.17	0.15	0.13
EXPENDITURE ON PERSONAL CONSUMPTION	0.35	0.55	0.71	0.81	0.88	0.90	0.89	0.93	0.96
EXPENDITURE BY GOVERNMENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INVESTMENT EXPENDITURE	0.17	0.46	0.53	0.33	0.00	-0.31	-0.46	-0.46	-0.42
RESIDENTIAL CONSTRUCTION	0.16	0.45	0.40	0.25	0.10	-0.08	-0.31	-0.46	-0.40
NON-RESIDENTIAL AND MACH. & EQUIP.	0.17	0.46	0.57	0.35	-0.02	-0.37	-0.51	-0.43	-0.34
EXPORTS	0.19	0.53	0.62	0.38	0.09	-0.37	-0.57	-0.47	-0.55
IMPORTS	0.10	0.42	0.67	0.69	0.65	0.65	0.69	0.83	0.98
CAPACITY UTILIZATION RATE *	0.00	0.00	0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.00
UNEMPLOYMENT RATE *	-0.21	-0.39	-0.47	-0.45	-0.40	-0.34	-0.32	-0.34	-0.38
EMPLOYMENT	0.35	0.67	0.79	0.76	0.67	0.58	0.53	0.57	0.63
NARROWLY DEFINED MONEY SUPPLY, M1	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
FINANCE CO. 90-DAY PAPER RATE *	0.04	0.15	0.25	0.31	0.34	0.37	0.43	0.35	0.69
INDUSTRIAL BOND RATE *	0.02	0.10	0.20	0.28	0.38	0.47	0.57	0.69	0.82
CONSUMER PRICE INDEX	-0.00	0.28	0.57	0.82	0.97	1.14	1.48	1.97	2.51
AVERAGE ANNUAL WAGES AND SALARIES	0.09	0.37	0.77	1.17	1.47	1.71	2.02	2.49	3.13
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	-0.03	-0.13	-0.17	-0.20	-0.22	-0.25	-0.27	-0.29	-0.33
EXCHANGE RATE (US \$/COM \$)	-0.39	-0.77	-0.96	-1.13	-1.09	-1.18	-1.69	-2.19	-2.66
TERMS OF TRADE (PX/PM)	-0.30	-0.35	-0.18	-0.00	0.23	0.40	0.45	0.62	0.89
BALANCE ON CURRENT ACCOUNT (\$ MILL) *	-279	-347	-366	-640	-801	-1179	-1742	-2266	-2881
CHANGE IN FOREIGN RESERVES (\$ MILL) *	0	0	0	0	0	0	0	0	0
CONSOLIDATED GOVERNMENT BALANCE (\$ MILL) *	-991	-500	-272	-469	-887	-1268	-1157	-776	-747
PERSONAL SAVINGS RATE (%) *	0.24	0.16	0.11	0.09	0.09	0.03	0.07	0.13	0.15
NOMINAL AFTER-TAX CORPORATE PROFITS	0.77	1.83	2.12	1.80	0.98	0.61	1.04	1.75	2.06
REAL PERSONAL DISPOSABLE INCOME	0.63	0.75	0.87	0.97	1.03	1.00	0.89	0.87	0.84

* See note to Table 4.10.

Table 4.20
Effects on Ontario of a wage subsidy policy
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
PROVINCIAL GROSS DOMESTIC PRODUCT	0.24	0.75	1.19	1.46	1.60	1.72	2.05	2.66	3.40
REAL PROVINCIAL GDP AT FACTOR COST	0.36	0.59	0.68	0.61	0.49	0.33	0.25	0.27	0.28
DEFLATOR, PROV'L GDP AT FACTOR COST	-0.12	0.16	0.53	0.88	1.16	1.43	1.83	2.45	3.21
REAL PERSONAL DISP. INCOME PER CAP.	0.88	0.84	0.96	1.05	1.11	1.07	0.99	1.02	1.16
ANNUAL WAGES & SALARIES PER EMPLOYEE	-0.22	0.02	0.40	0.81	1.13	1.39	1.73	2.24	2.84
GDP AT FACTOR COST PER EMPLOYEE	-0.03	-0.12	-0.16	-0.20	-0.23	-0.27	-0.28	-0.30	-0.38
LABOUR FORCE	0.08	0.15	0.17	0.15	0.13	0.11	0.09	0.10	0.11
EMPLOYMENT	0.39	0.72	0.85	0.81	0.71	0.60	0.54	0.57	0.64
UNEMPLOYMENT RATE (%) *	-0.28	-0.52	-0.63	-0.61	-0.54	-0.46	-0.41	-0.43	-0.49
REAL DOMESTIC PRODUCT - MANUFACTURING	0.52	0.84	0.95	0.78	0.53	0.20	0.01	0.04	0.07
RDP - GOODS-PRODUCING INDUSTRIES	0.45	0.76	0.87	0.73	0.50	0.22	0.07	0.10	0.14
RDP - SERVICE INDUSTRIES	0.35	0.59	0.68	0.66	0.57	0.48	0.44	0.45	0.46

* See note to Table 4.10.

Table 4.21
Effects of a wage subsidy policy on Ontario's domestic product by industry
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	0.25	0.54	0.72	0.75	0.71	0.63	0.61	0.58	0.77
2 FORESTRY	0.34	0.63	0.75	0.62	0.43	0.20	0.06	0.04	0.05
3 MINERAL FUEL MINES & WELLS	0.39	0.63	0.74	0.70	0.70	0.56	0.21	0.23	0.28
4 OTHER MINES & QUARRIES	0.33	0.62	0.71	0.50	0.20	-0.13	-0.33	-0.38	-0.43
5 FOOD, FEED, BEVERAGES & TOBACCO	0.24	0.52	0.71	0.80	0.84	0.83	0.86	0.97	1.11
6 TEXTILES & CLOTHING	0.66	0.82	1.08	1.16	1.17	1.05	0.90	0.92	1.01
7 WOOD & FURNITURE	0.34	0.62	0.76	0.61	0.39	0.14	-0.03	-0.05	-0.05
8 PAPER, PRINTING & ALLIED INDUSTRIES	0.34	0.59	0.72	0.63	0.47	0.27	0.16	0.16	0.17
9 PRIMARY METAL & METAL FABRICATING	0.43	0.73	0.80	0.58	0.27	-0.11	-0.33	-0.36	-0.37
10 MOTOR VEHICLES & PARTS	1.03	1.74	1.86	1.31	0.61	-0.14	-0.58	-0.62	-0.89
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	0.48	0.73	0.78	0.47	0.03	-0.51	-0.74	-0.70	-0.60
12 ELECTRICAL PRODUCTS	0.54	0.77	0.85	0.70	0.46	0.11	-0.09	-0.05	0.07
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	0.42	0.69	0.80	0.75	0.62	0.42	0.31	0.34	0.41
14 NON-METALLIC MINERAL PRODUCTS	0.42	0.72	0.77	0.77	0.60	0.03	-0.15	-0.18	-0.17
15 OTHER MANUFACTURING INDUSTRIES	0.74	0.86	0.95	1.02	1.04	0.87	0.68	0.68	0.80
TOTAL MANUFACTURING	0.52	0.84	0.95	0.78	0.53	0.20	0.01	0.04	0.07
16 CONSTRUCTION	0.25	0.53	0.58	0.44	0.20	-0.03	-0.16	-0.17	-0.16
17 ELECTRIC POWER, WATER & GAS UTILITIES	0.26	0.52	0.66	0.67	0.63	0.56	0.55	0.63	0.71
TOTAL GOODS-PRODUCING INDUSTRIES	0.45	0.76	0.87	0.73	0.50	0.22	0.07	0.10	0.14
18 TRANSPORTATION & STORAGE	0.33	0.57	0.62	0.55	0.40	0.26	0.22	0.25	0.28
19 COMMUNICATION	0.34	0.56	0.64	0.60	0.50	0.39	0.35	0.36	0.37
20 TRADE	0.46	0.76	0.84	0.94	0.89	0.77	0.70	0.77	0.87
21 FINANCE, INSURANCE & REAL ESTATE	0.31	0.52	0.60	0.59	0.53	0.46	0.43	0.42	0.40
22 OTHER SERVICE INDUSTRIES	0.33	0.54	0.60	0.57	0.47	0.38	0.36	0.36	0.32
TOTAL SERVICE INDUSTRIES	0.35	0.59	0.68	0.66	0.57	0.48	0.44	0.45	0.46
23 GOVERNMENT SECTOR	0.01	-0.05	-0.09	-0.12	-0.14	-0.16	-0.21	-0.28	-0.36
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	0.36	0.59	0.68	0.61	0.49	0.33	0.25	0.27	0.28

Table 4.22
National effects of increased money supply growth rates
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT	0.47	1.37	2.36	2.90	2.58	1.74	1.05	1.07	1.72
IMPLICIT PRICE DEFLATOR FOR GNP	0.29	0.81	1.42	1.82	1.64	1.12	0.65	0.60	0.97
REAL GROSS NATIONAL PRODUCT	0.17	0.55	0.93	1.06	0.92	0.62	0.40	0.47	0.74
EXPENDITURE ON PERSONAL CONSUMPTION	0.04	0.21	0.49	0.74	0.85	0.76	0.62	0.55	0.64
EXPENDITURE BY GOVERNMENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INVESTMENT EXPENDITURE	0.82	1.96	2.57	2.31	1.39	0.41	0.03	0.44	1.26
RESIDENTIAL CONSTRUCTION	1.11	2.60	2.92	2.69	2.43	1.89	1.32	0.88	0.60
NON-RESIDENTIAL AND MACH. & EQUIP.	0.76	1.83	2.50	2.24	1.20	0.15	-0.18	0.37	1.36
EXPORTS	0.12	0.38	0.74	0.78	0.44	-0.01	-0.24	-0.10	0.27
IMPORTS	0.24	0.55	0.72	0.60	0.12	-0.32	-0.46	-0.25	0.20
CAPACITY UTILIZATION RATE *	0.00	0.00	0.01	0.00	-0.00	-0.00	-0.00	-0.00	0.00
UNEMPLOYMENT RATE *	-0.07	-0.29	-0.51	-0.58	-0.44	-0.19	-0.01	-0.02	-0.19
EMPLOYMENT	0.13	0.49	0.86	0.98	0.74	0.32	0.01	0.04	0.32
NARROWLY DEFINED MONEY SUPPLY, M1	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
FINANCE CO.-90-DAY RATE *	-0.69	-0.48	-0.28	-0.18	-0.23	-0.41	-0.56	-0.56	-0.42
INDUSTRIAL BOND RATE *	-0.11	-0.45	-0.61	-0.68	-0.62	-0.57	-0.59	-0.62	-0.62
CONSUMER PRICE INDEX	0.26	0.72	1.22	1.43	1.18	0.70	0.35	0.40	0.75
AVERAGE ANNUAL WAGES AND SALARIES	0.21	0.61	1.27	1.87	2.01	1.64	1.12	0.89	1.15
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	0.07	0.12	0.13	0.10	0.11	0.15	0.20	0.25	0.26
EXCHANGE RATE (US \$/CDN \$)	-0.70	-1.93	-2.87	-2.81	-1.93	-0.80	-0.25	-0.73	-1.51
TERMS OF TRADE (PX/PM)	0.07	0.14	0.24	0.42	0.41	0.29	0.15	0.07	0.15
BALANCE ON CURRENT ACCOUNT (\$ MILL) *	-114	-110	362	995	1459	1404	980	648	748
CHANGE IN FOREIGN RESERVES (\$ MILL) *	0	0	0	0	0	0	0	0	0
CONSOLIDATED GOVERNMENT BALANCE (\$ MILL) *	581	1668	2859	2666	1323	-333	-992	268	2495
PERSONAL SAVINGS RATE (%) *	0.01	0.02	0.08	0.23	0.36	0.33	0.17	-0.02	-0.08
NET AFTER-TAX CORPORATE PROFITS	-0.91	5.97	5.97	4.23	1.76	0.33	-1.06	0.76	3.01
REAL PERSONAL DISPOSABLE INCOME	-0.02	0.12	0.50	0.96	1.23	1.09	0.72	0.42	0.46

* See note to Table 4.10

Table 4.23
Effects on Ontario of increased money supply growth rates
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
PROVINCIAL GROSS DOMESTIC PRODUCT	0.47	1.54	2.63	3.13	2.62	1.59	0.79	0.81	1.54
REAL PROVINCIAL GDP AT FACTOR COST	0.20	0.66	1.10	1.21	0.95	0.52	0.23	0.20	0.54
DEFLATOR, PROV'L GDP AT FACTOR COST	0.29	0.96	1.64	2.07	1.81	1.14	0.56	0.50	0.94
REAL PERSONAL DISP. INCOME PER CAP.	-0.06	-0.01	0.19	0.52	0.84	0.87	0.68	0.40	0.30
ANNUAL WAGES & SALARIES PER EMPLOYEE	0.19	0.58	1.23	1.82	2.03	1.70	1.18	0.93	1.18
GDP AT FACTOR COST PER EMPLOYEE	0.07	0.14	0.17	0.14	0.13	0.15	0.19	0.25	0.28
LABOUR FORCE									
EMPLOYMENT	0.02	0.11	0.20	0.22	0.16	0.07	0.01	0.01	0.07
UNEMPLOYMENT RATE (%) *	0.13	0.52	0.93	1.07	0.82	0.37	0.04	0.05	0.34
	-0.10	-0.38	-0.69	-0.80	-0.61	-0.28	-0.03	-0.04	-0.26
REAL DOMESTIC PRODUCT - MANUFACTURING	0.24	1.04	1.90	2.15	1.64	0.77	0.14	0.23	0.87
GOODS-PRODUCING INDUSTRIES	0.27	1.02	1.76	2.02	1.49	0.71	0.16	0.25	0.83
ROP - SERVICE INDUSTRIES	0.19	0.55	0.86	0.92	0.75	0.48	0.31	0.37	0.59

* See note to Table 4.10

Table 4.24
Effects of increased money supply growth rates on Ontario's real domestic product by industry
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	0.06	0.37	0.80	1.07	1.00	0.69	0.40	0.37	0.60
2 FORESTRY	0.20	0.71	1.25	1.44	1.10	0.50	0.07	0.12	0.56
3 MINERAL FUEL MINES & WELLS	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
4 OTHER MINES & QUARRIES	0.24	0.87	1.51	1.68	1.19	0.41	-0.11	-0.02	0.55
5 FOOD, FEED, BEVERAGES & TOBACCO	0.07	0.36	0.75	1.01	1.00	0.79	0.56	0.52	0.71
6 TEXTILES & CLOTHING	-0.02	0.40	1.18	1.82	1.99	1.40	0.95	0.81	0.82
7 WOOD & FURNITURE	0.27	0.84	1.40	1.55	1.14	0.47	0.10	0.11	0.61
8 PAPER, PRINTING & ALLIED INDUSTRIES	0.11	0.52	1.02	1.23	0.99	0.49	0.0	0.12	0.48
9 PRIMARY METAL & METAL FABRICATING	0.50	1.13	1.94	2.12	1.54	0.61	-0.03	0.06	0.48
10 MOTOR VEHICLES & PARTS	0.50	1.13	1.94	2.12	1.54	0.61	-0.03	0.06	0.48
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	0.36	1.25	2.42	3.53	2.23	0.49	-0.49	-0.03	0.45
12 ELECTRICAL PRODUCTS	0.31	1.37	2.37	3.08	2.02	0.64	-0.17	0.14	1.18
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	0.12	0.67	1.34	2.60	1.94	0.91	0.19	0.30	1.04
14 NON-METAL MINERAL PRODUCTS	0.54	1.43	2.10	2.98	1.57	0.89	0.36	0.31	0.69
15 OTHER MANUFACTURING INDUSTRIES	-0.10	0.41	1.32	2.66	1.71	0.82	0.21	0.31	0.92
TOTAL MANUFACTURING	0.24	1.04	1.90	2.15	1.64	0.77	0.14	0.23	0.87
16 CONSTRUCTION	0.70	1.53	1.96	1.88	1.30	0.52	0.11	0.31	0.89
17 ELECTRIC POWER, WATER & GAS UTILITIES	0.15	0.52	0.92	1.08	0.91	0.57	0.31	0.35	0.63
TOTAL GOODS-PRODUCING INDUSTRIES	0.27	1.02	1.76	1.96	1.49	0.71	0.16	0.25	0.83
18 TRANSPORTATION & STORAGE	0.22	0.68	1.07	1.10	0.79	0.36	0.11	0.24	0.58
19 COMMUNICATION	0.18	0.57	0.91	0.96	0.74	0.36	0.11	0.24	0.58
20 TRADE	0.20	0.71	1.26	1.48	1.26	0.78	0.24	0.33	0.59
21 FINANCE, INSURANCE & REAL ESTATE	0.17	0.46	0.67	0.70	0.61	0.45	0.32	0.45	0.84
22 OTHER SERVICE INDUSTRIES	0.19	0.48	0.69	0.68	0.53	0.35	0.28	0.39	0.51
TOTAL SERVICE INDUSTRIES	0.19	0.55	0.86	0.92	0.75	0.48	0.31	0.37	0.59
23 GOVERNMENT SECTOR	-0.05	-0.14	-0.21	-0.22	-0.12	0.01	0.07	0.04	-0.06
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	0.20	0.66	1.10	1.21	0.95	0.52	0.23	0.30	0.82

* See note to Table 4.10

Table 4.25
National effects of a one-time capital outflow
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT	0.36	0.44	0.27	0.16	-0.01	-0.01	0.24	0.49	0.49
IMPLICIT PRICE DEFATOR FOR GNP	0.26	0.36	0.32	0.25	0.14	0.13	0.29	0.47	0.52
REAL GROSS NATIONAL PRODUCT	0.10	0.08	-0.05	-0.08	-0.14	-0.14	-0.05	0.02	-0.03
EXPENDITURE ON PERSONAL CONSUMPTION	-0.01	0.10	0.04	0.03	-0.01	-0.05	-0.04	0.01	0.03
EXPENDITURE BY GOVERNMENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INVESTMENT EXPENDITURE	0.12	0.10	0.00	-0.25	-0.36	-0.28	-0.06	0.11	0.02
RESIDENTIAL CONSTRUCTION	-0.17	-0.21	-0.07	-0.05	-0.07	-0.08	-0.21	-0.26	-0.17
NON-RESIDENTIAL AND MACH. & EQUIP.	0.19	0.16	0.01	-0.30	-0.43	-0.33	-0.03	0.19	0.07
EXPORTS	0.27	0.33	-0.11	-0.07	-0.14	-0.11	0.06	0.14	-0.02
IMPORTS	-0.01	0.35	0.14	0.07	0.05	0.03	0.12	0.21	0.19
CAPACITY UTILIZATION RATE *	0.00	0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00	-0.00
UNEMPLOYMENT RATE *	-0.05	-0.10	-0.03	0.01	0.05	0.05	-0.05	-0.05	-0.04
EMPLOYMENT	0.08	0.17	0.05	-0.01	-0.07	-0.09	0.00	0.08	0.07
NARROWLY DEFINED MONEY SUPPLY, M1	-0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
FINANCE CO. 90-DAY PAPER RATE *	0.08	0.10	0.06	0.04	-0.00	-0.00	0.05	0.11	0.11
INDUSTRIAL BOND RATE *	0.09	0.05	0.07	0.06	0.06	0.05	0.08	0.08	0.09
CONSUMER PRICE INDEX	0.35	0.25	0.27	0.13	0.08	0.12	0.30	0.42	0.41
AVERAGE ANNUAL WAGES AND SALARIES	0.18	0.28	0.35	0.23	0.14	0.07	0.17	0.35	0.47
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	0.04	-0.05	-0.07	-0.04	-0.06	-0.04	-0.02	-0.03	-0.06
EXCHANGE RATE (US \$/CDM \$)	-1.02	0.10	-0.42	0.18	0.09	-0.12	-0.47	-0.41	-0.24
TERMS OF TRADE (PX/PM)	-0.32	0.25	0.06	0.24	0.13	0.01	-0.06	0.07	0.19
BALANCE ON CURRENT ACCOUNT (\$ MILL) *	-66	330	-330	183	-137	-308	-323	-76	-109
CHANGE IN FOREIGN RESERVES (\$ MILL) *	0	0	0	0	0	0	0	0	0
CONSOLIDATED GOVERNMENT BALANCE (\$ MILL) *	521	309	-44	-231	-359	-103	505	731	160
PERSONAL SAVINGS RATE (%) *	-0.11	0.05	0.01	0.04	-0.00	-0.07	-0.10	-0.04	0.02
NOMINAL AFTER-TAX CORPORATE PROFITS	1.23	0.40	-0.61	-0.64	-0.84	-0.29	0.59	0.75	-0.00
REAL PERSONAL DISPOSABLE INCOME	-0.13	0.16	0.06	0.08	-0.01	-0.14	-0.15	-0.02	0.06

* See note to Table 4.10.

Table 4.26

Effects on Ontario of a one-time capital outflow
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
PROVINCIAL GROSS DOMESTIC PRODUCT	0.41	0.50	0.30	0.19	-0.01	-0.02	0.28	0.54	0.54
REAL PROVINCIAL GDP AT FACTOR COST	0.14	0.14	-0.03	-0.06	-0.16	-0.13	-0.03	0.06	0.01
DEFLATOR, PROV'L GDP AT FACTOR COST	0.29	0.35	0.34	0.27	0.15	0.14	0.31	0.51	0.56
REAL PERSONAL DISP. INCOME PER CAP.	-0.10	0.18	0.06	0.08	-0.02	-0.03	-0.14	0.01	0.11
ANNUAL WAGES & SALARIES PER EMPLOYEE	0.17	0.26	0.34	0.24	0.15	0.08	0.17	0.35	0.48
GDP AT FACTOR COST PER EMPLOYEE	0.04	-0.05	-0.08	-0.05	-0.07	-0.04	-0.02	-0.03	-0.06
LABOUR FORCE	0.02	0.04	0.01	-0.00	-0.02	-0.02	-0.00	0.02	0.01
EMPLOYMENT	0.10	0.19	0.04	-0.01	-0.09	-0.11	-0.01	0.09	0.07
UNEMPLOYMENT RATE (%) *	-0.07	-0.14	-0.03	0.01	0.07	0.08	0.01	-0.07	-0.05
REAL DOMESTIC PRODUCT - MANUFACTURING	0.20	0.31	-0.14	-0.09	-0.32	-0.31	-0.07	0.12	0.03
RDP - GOODS-PRODUCING INDUSTRIES	0.18	0.27	-0.10	-0.09	-0.28	-0.27	-0.06	0.11	0.03
RDP - SERVICE INDUSTRIES	0.15	0.09	0.01	-0.05	-0.10	-0.09	-0.00	0.04	-0.00

* See note to Table 4.10.

Table 4.27

Effects of a one-time capital outflow on Ontario's real domestic product by industry
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	0.13	0.16	-0.02	-0.02	-0.10	-0.10	0.00	0.08	0.06
2 FORESTRY	0.12	0.22	-0.08	-0.10	-0.22	-0.21	-0.05	0.07	0.02
3 MINERAL FUEL MINES & WELLS	0.17	0.22	-0.07	-0.03	-0.21	-0.21	-0.05	0.06	0.04
4 OTHER MINES & QUARRIES	0.18	0.26	-0.15	-0.15	-0.31	-0.28	-0.06	0.09	-0.01
5 FOOD, FEED, BEVERAGES & TOBACCO	0.11	0.12	0.03	0.02	-0.05	-0.06	0.02	0.06	0.07
6 TEXTILES & CLOTHING	0.05	0.28	-0.01	0.10	-0.11	-0.21	-0.13	0.04	0.08
7 WOOD & FURNITURE	0.11	0.22	-0.08	-0.12	-0.24	-0.23	-0.06	0.07	0.02
8 PAPER, PRINTING & ALLIED INDUSTRIES	0.13	0.21	-0.08	-0.07	-0.18	-0.18	-0.04	0.08	0.02
9 PRIMARY METAL & METAL FABRICATING	0.20	0.29	-0.15	-0.13	-0.36	-0.33	-0.08	0.11	0.01
10 MOTOR VEHICLES & PARTS	0.43	0.70	-0.37	-0.31	-0.76	-0.89	-0.13	0.26	-0.15
11 MACHINERY & OTHER TRANSPORTATION EQUIP.	0.29	0.39	-0.13	-0.16	-0.34	-0.36	-0.10	0.13	-0.12
12 ELECTRICAL, ELECTRONIC & TELECOMMUNICATIONS	0.13	0.23	-0.04	0.05	-0.32	-0.24	-0.10	0.13	0.10
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	0.17	0.30	-0.06	-0.02	-0.20	-0.20	-0.05	0.09	0.04
14 NON-METALLIC MINERAL PRODUCTS	0.18	0.20	-0.07	-0.13	-0.30	-0.28	-0.08	0.07	0.01
15 OTHER MANUFACTURING INDUSTRIES	0.05	0.27	0.01	0.15	-0.13	-0.22	-0.15	0.03	0.10
TOTAL MANUFACTURING	0.20	0.31	-0.14	-0.09	-0.32	-0.31	-0.07	0.12	0.03
16 CONSTRUCTION	0.12	0.08	0.00	-0.18	-0.24	-0.20	-0.06	0.06	0.01
17 ELECTRIC POWER, WATER & GAS UTILITIES	0.15	0.16	0.04	0.00	-0.07	-0.07	0.03	0.10	0.07
TOTAL GOODS-PRODUCING INDUSTRIES	0.18	0.27	-0.10	-0.09	-0.28	-0.27	-0.06	0.11	0.03
18 TRANSPORTATION & STORAGE	0.29	0.19	0.07	-0.01	-0.08	-0.05	0.08	0.14	0.06
19 COMMUNICATION	0.16	0.09	0.00	-0.06	-0.12	-0.10	0.00	0.05	0.00
20 TRADE	0.07	0.20	0.02	-0.02	-0.12	-0.15	-0.04	0.09	-0.07
21 FINANCE, INSURANCE & REAL ESTATE	0.12	0.03	0.00	-0.06	-0.08	-0.07	-0.01	0.00	-0.03
22 OTHER SERVICE INDUSTRIES	0.19	0.03	0.00	-0.08	-0.10	-0.08	0.01	0.02	-0.04
TOTAL SERVICE INDUSTRIES	0.15	0.09	0.01	-0.05	-0.10	-0.09	-0.00	0.04	-0.00
23 GOVERNMENT SECTOR	-0.07	-0.04	-0.04	-0.01	-0.00	-0.02	-0.05	-0.07	-0.06
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	0.14	0.14	-0.03	-0.06	-0.16	-0.15	-0.03	0.06	0.01

Table 4.28

National effects of a rise in U.S. interest rates, assuming a flexible exchange rate
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT	0.44	1.17	1.84	2.12	1.79	1.20	0.88	1.12	1.77
IMPLICIT PRICE DEFATOR FOR GNP	0.29	0.79	1.35	1.71	1.68	1.42	1.24	1.38	1.82
REAL GROSS NATIONAL PRODUCT	0.15	0.37	0.48	0.41	0.11	-0.21	-0.36	-0.26	-0.05
EXPENDITURE ON PERSONAL CONSUMPTION	-0.00	0.09	0.20	0.28	0.28	0.16	0.02	-0.06	-0.02
EXPENDITURE BY GOVERNMENTS	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INVESTMENT EXPENDITURE	0.4	0.34	0.45	0.11	-0.56	-1.22	-1.44	-1.07	-0.45
RESIDENTIAL CONSTRUCTION	-0.19	-0.53	-0.76	-0.77	-0.80	-0.48	-0.95	-0.73	-0.89
NON-RESIDENTIAL AND MACH. & EQUIP.	0.22	0.58	0.79	0.34	-0.95	-1.39	-1.64	-1.15	-0.35
EXPORTS	0.33	0.82	0.90	0.64	0.02	-0.95	-0.72	-0.46	-0.11
IMPORTS	-0.11	-0.04	-0.05	-0.12	-0.27	-0.48	-0.57	-0.46	-0.21
CAPACITY UTILIZATION RATE *	0.00	0.00	0.00	-0.00	-0.00	-0.01	-0.01	-0.00	0.00
UNEMPLOYMENT RATE *	-0.06	-0.18	-0.27	-0.25	-0.11	0.07	0.18	0.14	0.02
EMPLOYMENT	0.10	0.31	0.46	0.43	0.19	-0.11	-0.29	-0.23	-0.02
NARROWLY DEFINED MONEY SUPPLY, M1	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
FINANCE CO. 90-DAY PAPER RATE *	0.10	0.26	0.40	0.46	0.39	0.27	0.19	0.24	0.39
INDUSTRIAL BOND RATE *	0.10	0.20	0.34	0.43	0.48	0.48	0.48	0.49	0.53
CONSUMER PRICE INDEX	0.39	0.66	1.24	1.48	1.31	0.99	0.90	1.16	1.62
AVERAGE ANNUAL WAGES AND SALARIES	0.20	0.61	1.17	1.57	1.62	1.30	0.98	0.96	1.28
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	0.05	0.05	0.01	-0.08	-0.18	-0.25	-0.25	-0.19	-0.16
EXCHANGE RATE (US \$/DM \$)	-1.08	-1.67	-2.25	-1.73	-1.14	-0.40	-0.47	-1.15	-1.86
TERMS OF TRADE (PX/PM)	-0.38	-0.44	-0.40	0.06	0.41	0.65	0.53	0.27	0.18
BALANCE ON CURRENT ACCOUNT (\$ MILL) *	51	596	901	1475	1427	1374	1037	795	950
CHANGE IN FOREIGN RESERVES (\$ MILL) *	0	0	0	0	0	0	0	0	0
CONSOLIDATED GOVERNMENT BALANCE (\$ MILL) *	634	1927	2183	2071	1178	302	519	2097	4000
PERSONAL SAVINGS RATE (%) *	-0.12	-0.14	-0.11	0.01	0.07	0.03	-0.13	-0.29	-0.31
NOMINAL AFTER-TAX CORPORATE PROFITS	1.53	3.07	3.37	2.00	-0.40	-1.95	-1.60	-0.29	2.08
REAL PERSONAL DISPOSABLE INCOME	-0.14	-0.06	0.11	0.38	0.44	0.25	-0.08	-0.35	-0.33

* See note to Table 4.10.

Table 4.23
Effects on Ontario of a rise in U.S. interest rates, assuming a flexible exchange rate
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
PROVINCIAL GROSS DOMESTIC PRODUCT	0.45	1.17	1.80	2.01	1.51	0.95	0.59	0.86	1.56
REAL PROVINCIAL GDP AT FACTOR COST	0.16	0.40	0.51	0.40	0.01	-0.41	-0.51	-0.49	-0.24
DEFLATOR, PROV'L GDP AT FACTOR COST	0.30	0.82	1.35	1.70	1.67	1.40	1.20	1.34	1.82
REAL PERSONAL DISP. INCOME PER CAP.	-0.11	0.03	0.22	0.49	0.50	0.26	-0.10	-0.32	-0.24
ANNUAL WAGES & SALARIES PER EMPLOYEE	0.18	0.58	0.12	1.54	1.63	1.36	1.05	1.01	1.35
GDP AT FACTOR COST PER EMPLOYEE	0.05	0.06	0.01	-0.08	-0.19	-0.27	-0.27	-0.21	-0.17
LABOUR FORCE									
EMPLOYMENT	0.02	0.07	0.10	0.10	0.04	-0.03	-0.07	-0.06	-0.01
UNEMPLOYMENT RATE (%) *	0.10	0.34	0.50	0.48	0.20	-0.14	-0.34	-0.25	-0.07
	-0.08	-0.25	-0.37	-0.35	-0.15	0.10	0.25	0.22	0.05
REAL DOMESTIC PRODUCT - MANUFACTURING	0.19	0.64	0.85	0.73	-0.03	-0.85	-1.26	-1.06	-0.55
RDP - GOODS-PRODUCING INDUSTRIES	0.18	0.58	0.76	0.64	-0.03	-0.74	-1.09	-0.80	-0.44
RDP - SERVICE INDUSTRIES	0.18	0.37	0.47	0.34	0.06	-0.25	-0.38	-0.30	-0.12

* See note to Table 4.10.

Table 4.30

Effects of a rise in U.S. interest rates on Ontario's real domestic product by industry, assuming a flexible exchange rate (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	0.12	0.37	0.52	0.49	0.19	-0.20	-0.42	-0.36	-0.13
2 FORESTRY	0.12	0.42	0.55	0.42	-0.08	-0.62	-0.84	-0.84	-0.49
3 MINERAL FUEL MINES & WELLS	0.17	0.52	0.71	0.70	0.17	-0.44	-0.80	-0.97	-0.37
4 OTHER MINES & QUARRIES	0.17	0.57	0.69	0.70	-0.22	-0.98	-1.34	-1.14	-0.87
5 FOOD, FEED, BEVERAGES & TOBACCO	0.11	0.30	0.45	0.46	0.28	0.01	-0.16	-0.13	0.04
6 TEXTILES & CLOTHING	0.03	0.33	0.57	0.79	0.52	0.03	-0.47	-0.53	-0.49
7 WOOD & FURNITURE	0.11	0.41	0.52	0.37	-0.16	-0.76	-1.07	-0.93	-0.54
8 PAPER, PRINTING & ALLIED INDUSTRIES	0.13	0.43	0.56	0.47	0.01	-0.53	-0.82	-0.71	-0.40
9 PRIMARY METAL & METAL FABRICATING	0.19	0.63	0.81	0.62	-0.20	-1.06	-1.48	-1.25	-0.71
10 MOTOR VEHICLES & PARTS	0.45	1.45	1.68	1.29	-0.50	-2.16	-2.79	-2.16	-1.08
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	0.26	0.87	1.22	0.94	-0.32	-1.53	-2.03	-1.62	-0.77
12 ELECTRICAL PRODUCTS	0.11	0.50	0.76	0.68	-0.07	-0.89	-1.35	-1.17	-0.62
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	0.17	0.53	0.73	0.70	0.20	-0.38	-0.74	-0.66	-0.33
14 NON-METALLIC MINERAL PRODUCTS	0.17	0.50	0.64	0.45	-0.19	-0.91	-1.28	-1.11	-0.64
15 OTHER MANUFACTURING INDUSTRIES	0.01	0.32	0.60	0.66	0.56	0.04	-0.54	-0.74	-0.59
TOTAL MANUFACTURING	0.19	0.64	0.85	0.73	-0.03	-0.85	-1.26	-1.06	-0.55
16 CONSTRUCTION	0.13	0.30	0.37	0.12	-0.35	-0.87	-1.09	-0.88	-0.45
17 ELECTRIC POWER, WATER & GAS UTILITIES	0.21	0.51	0.67	0.63	0.36	0.05	-0.11	-0.02	0.21
TOTAL GOODS-PRODUCING INDUSTRIES	0.18	0.58	0.76	0.64	-0.03	-0.74	-1.09	-0.90	-0.44
18 TRANSPORTATION & STORAGE	0.51	1.04	1.26	1.08	0.68	0.31	0.19	0.39	0.69
19 COMMUNICATION	0.19	0.39	0.49	0.35	0.02	-0.32	-0.46	-0.35	-0.13
20 TRADE	0.08	0.32	0.49	0.48	0.17	-0.25	-0.51	-0.46	-0.19
21 FINANCE, INSURANCE & REAL ESTATE	0.13	0.23	0.27	0.14	-0.06	-0.29	-0.38	-0.32	-0.22
22 OTHER SERVICE INDUSTRIES	0.20	0.35	0.41	0.22	-0.06	-0.35	-0.43	-0.32	-0.17
TOTAL SERVICE INDUSTRIES	0.18	0.37	0.47	0.34	0.06	-0.25	-0.38	-0.30	-0.12
23 GOVERNMENT SECTOR	-0.08	-0.17	-0.24	-0.23	-0.17	-0.09	-0.09	-0.15	-0.23
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	0.16	0.40	0.51	0.40	0.01	-0.41	-0.61	-0.49	-0.24

Table 4.31

National effects of a rise in U.S. interest rates, assuming a fixed exchange rate
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT	0.05	0.11	0.14	0.17	0.21	0.26	0.29	0.30	0.32
IMPLICIT PRICE DEFATOR FOR GNP	0.02	0.02	0.00	-0.01	0.02	0.04	0.05	0.04	0.04
REAL GROSS NATIONAL PRODUCT	0.03	0.09	0.14	0.18	0.19	0.22	0.24	0.26	0.28
EXPENDITURE ON PERSONAL CONSUMPTION	0.00	0.01	0.02	0.02	0.02	0.03	0.03	0.04	0.04
EXPENDITURE BY GOVERNMENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INVESTMENT EXPENDITURE	0.01	0.04	0.04	0.02	0.02	0.05	0.06	0.04	0.02
RESIDENTIAL CONSTRUCTION	-0.01	-0.01	-0.01	-0.03	-0.06	-0.09	-0.09	-0.08	-0.08
NON-RESIDENTIAL AND MACH. & EQUIP.	0.01	0.05	0.05	0.03	0.04	0.08	0.10	0.07	0.04
EXPORTS	0.15	0.30	0.40	0.46	0.51	0.55	0.57	0.60	0.64
IMPORTS	0.03	-0.00	-0.07	-0.15	-0.14	-0.15	-0.23	-0.25	-0.33
CAPACITY UTILIZATION RATE *	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UNEMPLOYMENT RATE *	-0.01	-0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01
EMPLOYMENT	0.01	0.01	-0.00	-0.01	-0.01	-0.00	-0.01	-0.02	-0.02
NARROWLY DEFINED MONEY SUPPLY, M1	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
FINANCE CO. 90-DAY PAPER RATE *	0.01	0.02	0.03	0.04	0.05	0.06	0.06	0.07	0.07
INDUSTRIAL BOND RATE *	0.01	0.01	0.02	0.04	0.06	0.07	0.08	0.09	0.10
CONSUMER PRICE INDEX	0.02	0.03	0.02	0.02	0.05	0.06	0.07	0.06	0.05
AVERAGE ANNUAL WAGES AND SALARIES	0.01	0.02	0.02	0.01	0.01	0.03	0.04	0.03	0.01
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	0.00	0.03	0.04	0.05	0.04	0.04	0.04	0.05	0.06
EXCHANGE RATE (US \$/DM \$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERMS OF TRADE (PX/PW)	-0.04	-0.10	-0.16	-0.22	-0.22	-0.22	-0.25	-0.28	-0.30
BALANCE ON CURRENT ACCOUNT (\$ BILL) *	102	299	502	749	924	1171	1491	1877	2394
CHANGE IN FOREIGN RESERVES (\$ BILL) *	-535	-764	-1065	-1102	-1005	-845	-652	-424	-163
CONSOLIDATED GOVERNMENT BALANCE (\$ BILL) *	82	201	331	507	728	965	1223	1501	1884
PERSONAL SAVINGS RATE (%) *	-0.00	0.01	0.01	0.00	-0.01	-0.01	-0.00	-0.00	-0.01
NOMINAL AFTER-TAX CORPORATE PROFITS	0.22	0.44	0.61	0.77	0.88	0.93	0.96	0.97	1.03
REAL PERSONAL DISPOSABLE INCOME	-0.00	0.02	0.03	0.03	0.02	0.03	0.04	0.04	0.04

* See note to Table 4.10.

Table 4.32

Effects on Ontario of a rise in U.S. interest rates, assuming a fixed exchange rate
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
PROVINCIAL GROSS DOMESTIC PRODUCT	0.02	0.02	-0.01	-0.03	-0.00	0.06	-0.00	-0.03	-0.04
REAL PROVINCIAL GDP AT FACTOR COST	0.11	0.02	0.03	0.02	0.02	0.02	0.02	0.01	0.01
DEFLATOR, PROV'L GDP AT FACTOR COST	0.02	-0.00	-0.03	-0.06	-0.04	-0.03	-0.05	-0.07	-0.08
REAL PERSONAL DISP. INCOME PER CAP.	-0.00	0.02	0.02	0.02	0.01	0.02	0.03	0.04	0.03
ANNUAL WAGES & SALARIES PER EMPLOYEE	0.01	0.02	0.02	0.01	0.01	0.02	0.04	0.03	0.02
GDP AT FACTOR COST PER EMPLOYEE	0.00	0.02	0.04	0.05	0.04	0.04	0.04	0.05	0.06
LABOUR FORCE	0.00	-0.00	-0.00	-0.01	-0.01	-0.00	-0.01	-0.01	-0.01
EMPLOYMENT	0.01	-0.00	-0.01	-0.03	-0.02	-0.02	-0.03	-0.04	-0.04
UNEMPLOYMENT RATE (%) *	-0.00	-0.00	0.01	0.02	0.01	0.01	0.02	0.03	0.03
REAL DOMESTIC PRODUCT - MANUFACTURING	-0.03	-0.05	-0.06	-0.06	-0.06	-0.08	-0.08	-0.08	-0.08
RDP - GOODS-PRODUCING INDUSTRIES	-0.02	-0.02	-0.03	-0.03	-0.03	-0.04	-0.04	-0.04	-0.04
RDP - SERVICE INDUSTRIES	0.03	0.06	0.07	0.06	0.06	0.06	0.06	0.06	0.06

* See note to Table 4.10.

Table 4.33
Effects of a rise in U.S. interest rates on Ontario's real domestic product by industry, assuming a fixed exchange rate
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	-0.02	-0.04	-0.05	-0.04	-0.03	-0.04	-0.05	-0.05	-0.04
2 FORESTRY	-0.02	-0.03	-0.03	-0.02	-0.01	-0.02	-0.03	-0.03	-0.02
3 MINERAL FUEL MINES & WELLS	-0.01	-0.02	-0.02	-0.01	-0.02	-0.03	-0.04	-0.04	-0.03
4 OTHER MINES & QUARRIES	-0.03	-0.05	-0.05	-0.04	-0.02	-0.03	-0.04	-0.04	-0.03
5 FOOD, FEED, BEVERAGES & TOBACCO	-0.02	-0.04	-0.05	-0.05	-0.05	-0.05	-0.06	-0.06	-0.06
6 TEXTILES & CLOTHING	-0.04	-0.06	-0.07	-0.07	-0.10	-0.12	-0.12	-0.11	-0.12
7 WOOD & FURNITURE	-0.01	-0.03	-0.03	-0.03	-0.01	-0.01	-0.02	-0.02	-0.02
8 PAPER, PRINTING & ALLIED INDUSTRIES	-0.02	-0.03	-0.03	-0.02	-0.01	-0.02	-0.03	-0.02	-0.02
9 PRIMARY METAL & METAL FABRICATING	-0.03	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06
10 MOTOR VEHICLES & PARTS	-0.03	-0.04	-0.03	-0.03	0.02	-0.01	-0.02	-0.02	-0.01
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	-0.05	-0.06	-0.11	-0.15	-0.17	-0.17	-0.16	-0.18	-0.20
12 ELECTRICAL PRODUCTS	-0.04	-0.07	-0.10	-0.13	-0.16	-0.16	-0.15	-0.17	-0.19
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	-0.01	-0.02	-0.02	-0.03	-0.03	-0.04	-0.04	-0.04	-0.04
14 NON-METALLIC MINERAL PRODUCTS	-0.02	-0.03	-0.03	-0.04	-0.05	-0.05	-0.06	-0.06	-0.07
15 OTHER MANUFACTURING INDUSTRIES	-0.06	-0.10	-0.12	-0.14	-0.19	-0.21	-0.21	-0.20	-0.21
TOTAL MANUFACTURING	-0.03	-0.05	-0.06	-0.06	-0.06	-0.08	-0.08	-0.08	-0.08
16 CONSTRUCTION	0.01	0.02	0.02	-0.00	0.00	0.01	0.01	-0.01	-0.02
17 ELECTRIC POWER, WATER & GAS UTILITIES	0.08	0.16	0.20	0.20	0.21	0.22	0.22	0.22	0.23
TOTAL GOODS-PRODUCING INDUSTRIES	-0.02	-0.02	-0.03	-0.03	-0.03	-0.04	-0.04	-0.04	-0.04
18 TRANSPORTATION & STORAGE	0.26	0.57	0.63	0.72	0.74	0.79	0.80	0.81	0.83
19 COMMUNICATION	0.02	0.05	0.05	0.02	0.02	0.02	0.05	0.05	0.04
20 TRADE	-0.00	-0.00	-0.01	-0.03	-0.03	-0.02	-0.03	-0.04	-0.03
21 FINANCE, INSURANCE & REAL ESTATE	-0.00	-0.00	-0.01	-0.01	-0.02	-0.02	-0.02	-0.03	-0.03
22 OTHER SERVICE INDUSTRIES	0.01	0.02	0.02	0.01	0.01	0.01	0.00	-0.00	-0.00
TOTAL SERVICE INDUSTRIES	0.03	0.06	0.07	0.06	0.06	0.06	0.06	0.05	0.05
23 GOVERNMENT SECTOR	-0.01	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.02	-0.02
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	0.01	0.02	0.03	0.02	0.02	0.02	0.02	0.01	0.01

Table 4.34
National effects of a rise in U.S. interest rates, assuming a managed exchange rate
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT	-0.17	-0.08	-0.09	0.01	0.05	0.14	0.16	0.17	0.16
IMPLICIT PRICE DEFATOR FOR GNP	-0.11	-0.02	0.01	0.17	0.31	0.46	0.54	0.58	0.90
REAL GROSS NATIONAL PRODUCT	-0.06	-0.06	-0.10	-0.16	-0.25	-0.32	-0.38	-0.41	-0.44
EXPENDITURE ON PERSONAL CONSUMPTION	-0.02	-0.06	-0.08	-0.13	-0.15	-0.19	-0.22	-0.26	-0.30
EXPENDITURE BY GOVERNMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INVESTMENT EXPENDITURE	-0.66	-0.79	-1.01	-1.00	-0.98	-1.00	-1.04	-1.11	-1.15
RESIDENTIAL CONSTRUCTION	-0.98	-1.27	-1.58	-1.59	-1.41	-1.29	-1.00	-0.84	-0.67
NON-RESIDENTIAL AND MACH. & EQUIP.	-0.58	-0.66	-0.85	-0.85	-0.87	-0.94	-1.05	-1.15	-1.25
EXPORTS	0.17	0.38	0.40	0.33	0.16	-0.01	-0.15	-0.25	-0.27
IMPORTS	-0.20	-0.20	-0.21	-0.19	-0.07	-0.08	-0.11	-0.20	-0.21
CAPACITY UTILIZATION RATE *	-0.00	0.00	-0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.00
UNEMPLOYMENT RATE *	0.03	0.06	0.06	0.08	0.07	0.10	0.11	0.14	0.15
EMPLOYMENT	-0.06	-0.10	-0.09	-0.13	-0.11	-0.16	-0.18	-0.23	-0.24
NARROWLY DEFINED MONEY SUPPLY, M1	-2.12	-0.67	-2.41	-0.90	-2.36	-1.15	-1.95	-1.14	-1.73
FINANCE CO. 90-DAY PAPER RATE *	0.56	0.15	0.63	0.24	0.65	0.34	0.56	0.35	0.50
INDUSTRIAL BOND RATE *	0.17	0.38	0.50	0.67	0.63	0.76	0.69	0.73	0.65
CONSUMER PRICE INDEX	-0.07	0.00	0.03	0.14	0.24	0.35	0.40	0.44	0.46
AVERAGE ANNUAL WAGES AND SALARIES	-0.09	-0.07	-0.10	-0.02	-0.02	0.12	0.14	0.16	0.12
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	-0.02	-0.01	-0.07	-0.11	-0.20	-0.24	-0.27	-0.27	-0.28
EXCHANGE RATE (US \$/GDM \$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TERMS OF TRADE (PX/PM)	-0.15	-0.13	-0.12	0.01	0.17	0.29	0.36	0.36	0.39
BALANCE ON CURRENT ACCOUNT (\$ MILL) *	277	635	791	965	871	871	858	1021	1130
CHANGE IN FOREIGN RESERVES (\$ MILL) *	-1	2	1	0	-1	-3	-2	0	0
CONSOLIDATED GOVERNMENT BALANCE (\$ MILL) *	-147	166	318	732	914	1184	1261	1449	1598
PERSONAL SAVINGS RATE (%) *	-0.05	-0.07	-0.10	-0.12	-0.13	-0.14	-0.13	-0.14	-0.14
NOMINAL AFTER-TAX CORPORATE PROFITS	-0.46	0.13	-0.15	-0.01	-0.36	-0.50	-0.71	-0.76	-0.73
REAL PERSONAL DISPOSABLE INCOME	-0.01	-0.10	-0.12	-0.19	-0.23	-0.26	-0.30	-0.33	-0.39

* See note to Table 4.10.

Table 4.35
Effects on Ontario of a rise in U.S. interest rates, assuming a managed exchange rate
(percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
PROVINCIAL GROSS DOMESTIC PRODUCT	-0.20	-0.15	-0.19	-0.12	-0.05	-0.03	0.00	-0.02	-0.04
REAL PROVINCIAL GDP AT FACTOR COST	-0.08	-0.12	-0.18	-0.28	-0.35	-0.45	-0.51	-0.57	-0.60
DEFLATOR, PROV'L GDP AT FACTOR COST	-0.13	-0.04	-0.02	0.14	0.29	0.44	0.52	0.56	0.56
REAL PERSONAL DISP. INCOME PER CAP.	-0.01	-0.10	-0.12	-0.20	-0.24	-0.28	-0.33	-0.38	-0.45
ANNUAL WAGES & SALARIES PER EMPLOYEE	-0.08	-0.04	-0.08	-0.02	0.11	0.22	0.34	0.36	0.42
GDP AT FACTOR COST PER EMPLOYEE	-0.03	-0.01	-0.06	-0.12	-0.21	-0.25	-0.28	-0.29	-0.30
LABOUR FORCE									
EMPLOYMENT	-0.01	-0.02	-0.02	-0.03	-0.03	-0.04	-0.05	-0.06	-0.06
UNEMPLOYMENT RATE (%) *	0.06	-0.11	-0.10	-0.15	-0.14	-0.20	-0.23	-0.28	-0.30
	0.04	0.08	0.08	0.11	0.10	0.15	0.17	0.21	0.22
REAL DOMESTIC PRODUCT - MANUFACTURING	-0.10	-0.22	-0.30	-0.48	-0.61	-0.81	-0.91	-1.02	-1.08
ROP - GOODS-PRODUCING INDUSTRIES	-0.13	-0.22	-0.31	-0.44	-0.55	-0.71	-0.81	-0.90	-0.95
ROP - SERVICE INDUSTRIES	-0.06	-0.07	-0.13	-0.20	-0.26	-0.34	-0.39	-0.44	-0.46

* See note to Table 4.10.

Table 4.38

Effects of a rise in U.S. interest rates on Ontario's real domestic product by industry, assuming a managed exchange rate (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	0.01	-0.02	-0.06	-0.16	-0.24	-0.38	-0.45	-0.53	-0.56
2 FORESTRY	-0.11	-0.14	-0.21	-0.32	-0.41	-0.57	-0.66	-0.75	-0.79
3 MINERAL FUEL MINES & WELLS	-0.00	-0.06	-0.13	-0.27	-0.42	-0.59	-0.67	-0.75	-0.81
4 OTHER MINES & QUARRIES	-0.12	-0.15	-0.24	-0.37	-0.51	-0.72	-0.83	-0.95	-1.01
5 FOOD, FEED, BEVERAGES & TOBACCO	-0.01	-0.05	-0.09	-0.17	-0.23	-0.32	-0.37	-0.42	-0.46
6 TEXTILES & CLOTHING	0.05	-0.08	-0.13	-0.23	-0.43	-0.57	-0.66	-0.73	-0.81
7 WOOD & FURNITURE	-0.17	-0.21	-0.28	-0.39	-0.47	-0.62	-0.71	-0.80	-0.84
8 PAPER, PRINTING & ALLIED INDUSTRIES	-0.02	-0.05	-0.10	-0.21	-0.31	-0.47	-0.56	-0.65	-0.69
9 PRIMARY METAL & METAL FABRICATING	-0.16	-0.26	-0.36	-0.52	-0.66	-0.87	-0.99	-1.11	-1.17
10 MOTOR VEHICLES & PARTS	-0.14	-0.25	-0.38	-0.62	-0.94	-1.31	-1.62	-1.86	-2.08
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	-0.20	-0.34	-0.61	-0.95	-1.02	-1.23	-1.35	-1.51	-1.60
12 ELECTRICAL PRODUCTS	-0.22	-0.48	-0.57	-0.79	-0.83	-0.99	-1.13	-1.31	-1.39
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	-0.01	-0.07	-0.14	-0.28	-0.41	-0.56	-0.65	-0.73	-0.78
14 NON-METALLIC MINERAL PRODUCTS	-0.38	-0.42	-0.62	-0.68	-0.80	-0.82	-1.00	-1.10	-1.14
15 OTHER MANUFACTURING INDUSTRIES	0.11	-0.11	-0.17	-0.39	-0.53	-0.69	-0.74	-0.80	-0.87
TOTAL MANUFACTURING	-0.10	-0.22	-0.30	-0.48	-0.61	-0.81	-0.91	-1.02	-1.09
16 CONSTRUCTION	-0.56	-0.55	-0.77	-0.71	-0.77	-0.79	-0.84	-0.89	-0.91
17 ELECTRIC POWER, WATER & GAS UTILITIES	0.03	0.08	0.07	0.01	-0.03	-0.09	-0.14	-0.18	-0.21
TOTAL GOODS-PRODUCING INDUSTRIES	-0.13	-0.22	-0.31	-0.44	-0.55	-0.71	-0.81	-0.90	-0.95
18 TRANSPORTATION & STORAGE	0.20	0.46	0.52	0.46	0.40	0.36	0.32	0.27	0.27
19 COMMUNICATION	-0.06	-0.08	-0.14	-0.22	-0.35	-0.47	-0.42	-0.47	-0.50
20 TRADE	-0.12	-0.19	-0.24	-0.33	-0.38	-0.45	-0.51	-0.58	-0.62
21 FINANCE, INSURANCE & REAL ESTATE	-0.09	-0.13	-0.20	-0.27	-0.33	-0.40	-0.43	-0.48	-0.50
22 OTHER SERVICE INDUSTRIES	-0.07	-0.09	-0.16	-0.23	-0.31	-0.39	-0.44	-0.48	-0.50
TOTAL SERVICE INDUSTRIES	-0.06	-0.07	-0.13	-0.20	-0.26	-0.34	-0.39	-0.44	-0.46
23 GOVERNMENT SECTOR	0.02	-0.00	-0.01	-0.04	-0.06	-0.08	-0.10	-0.10	-0.10
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	-0.08	-0.12	-0.18	-0.28	-0.35	-0.45	-0.51	-0.57	-0.60

5

The impact of the September 1981 Energy Accord

The simulations in Chapter 4 show the sensitivity of the Canadian and Ontario economies to some shocks or policy changes that might occur in the future. This chapter tries to estimate some of the effects on Ontario of a past 'shock', namely, the Ottawa-Alberta Energy Accord concluded on 1 September 1981.

First, it must be stressed what the impacts of the Accord have been measured against. They have not been measured against a simple extrapolation of the October 1980 National Energy Program (NEP), with the resulting impasse between Alberta and Ottawa continuing year after year. Few analysts believed in 1981 that this state of affairs could last. Instead, the impacts of the Accord are measured against what was seen in mid-1981 as a likely outcome of the Ottawa-Alberta negotiations.¹ Examining the effects of the 'anticipated' settlement against what finally occurred gives some sense of other ways in which the negotiations could have turned out and what the effect of the most likely alternatives would have been.

The estimated effects of the Accord (vis-à-vis the anticipated settlement) are summarized in Table 5.1; more details are in Table 5.4 at the end of the chapter.² Clearly, some features of the Accord were anticipated more accurately than others - perhaps an indication that the negotiators faced fewer alternatives in the former areas. For example, the blended (refiners'

1 Specifically, the impacts of the Accord are measured against basic elements of an agreement projected by DRI Canada in June 1981 to occur later in that year or in 1982.

2 Readers studying the impacts and nature of the Accord should see Scarfe and Wilkinson (1981) for a lucid and detailed review.

The Impact of the September 1981 Energy Accord

TABLE 5.1

Unanticipated elements of the Energy Accord: summary

	Annual average	
	1982-5	1986-90
	Percentage change	
Wellhead price, conventional crude ('old')	22.0	22.9
Refiners' acquisition price (blended price)	12.9	14.1
Natural gas, Toronto Citygate price	-2.3	-14.5
Petroleum production	0.4	1.0
Domestic demand for petroleum	-0.8	-3.0
Oil imports	-4.0	-20.0
Federal revenues and expenditures		
Petroleum Compensation Charge	-14.8	-23.4
Total subsidies	-9.1	-36.4
Tax on gas and gas liquids	-36.9	-37.1
Petroleum and Natural Gas		
Revenue Tax (PGRT) (includes the IORT -		
a 50 per cent tax on difference of new		
wellhead and NEP price)	152.0	80.1
Provincial royalties	15.2	7.3
	Change in \$ millions	
Corporate Revenues		
Pre-tax	3026	2228
Post-tax	-1016	-1379

NOTE: All figures calculated as changes or percentage changes from pre-Accord projections to post-Accord projections.

acquisition) price of petroleum was relatively well foreseen; it averages only 13 to 14 per cent above anticipated levels throughout the 1980s. Thus, relatively little unanticipated consumer-price inflation stems directly from the Accord. Moreover, the price to consumers of natural gas was actually over-predicted by an increasing extent for each year of the decade. (Recall that one feature of the Accord was an attempt to 'twist' the relative prices of petroleum and gas.)

The actual increases in the wellhead price and in the price for 'new' conventional crude result in a blended price somewhat higher than the one that had been expected.³ The primary difference in the post-Accord pro-

³ Note that the pre-Accord model's assumptions about world petroleum prices project less of a rise than is foreseen in the Accord. The assumptions

jection is in the Petroleum Compensation Charge, which generates lower-than-anticipated revenues.

Higher-than-expected prices to consumers and for petroleum from new production are projected to result in some additional domestic output and in a further decline in domestic consumption; the net effect is to reduce imports by 20 per cent vis-à-vis what was foreseen pre-Accord for the latter half of the decade.

The biggest surprise in the Accord appears to have been the amount of additional revenue allocated to the federal government, instead of the energy corporations, through the increased Petroleum and National Gas Revenue Tax (PGRT) and the Incremental Oil Revenue Tax (IORT).⁴ Indeed, this result was so much of a surprise that despite the higher-than-anticipated petroleum price increases, post-tax corporate profits in oil and gas are actually lower - by over \$1 billion a year - than the pre-Accord projections.

These price increases are projected to have other consequences. An oil or gas price increase removes purchasing power (decreases effective demand) from the hands of consumers. It may also squeeze profits - and reduce investment - in nonenergy industries that use oil and gas as major inputs. When the funds go to the corporate sector, one can safely assume that at least most of them will be reinvested and so re-enter the income-expenditure cycle as demand - albeit of another type. But when the funds are collected by government in a political atmosphere that stresses deficit reductions, such as is forecast for the 1980s, one must assume that they do not get cycled back into demand. Thus, reduction in aggregate demand leads to reduced output - although it also softens the inflationary pressure of the oil-price increases. Moreover, removing a source of internal financing from the energy sector puts into doubt the size of the increase in petroleum output projected for the 1980s - although our model assumes no major reduction in output as an effect of the Accord.

Notice that although the Accord extends only through 1986, our model carries all its major elements forward through 1990; the single exception is that for 1987-90 about \$1 billion per year is retransferred from the federal

were approximately those outlined in Chapter 2.

4 The latter is a 50 per cent tax on the difference between the wellhead price of conventional crude agreed to under the Accord and the schedule previously established under the NEP in the October 1980 budget.

The Impact of the September 1981 Energy Accord

government to the corporations - partly because the federal deficit is projected to be much reduced then and partly because it was felt that the corporations would need additional revenues to continue the development of energy projects.⁵

These and other effects of the unanticipated elements of the Accord on the national and Ontario economies are summarized in Tables 5.2 and 5.3 respectively; greater detail is in Tables 5.5 through 5.9 at the end of the chapter.

At the national level, reduced consumption and investment reduce real GNP by about 0.3 per cent in 1982-5 and 0.9 per cent in 1986-90 - between one and two billion 1971 dollars. The GNP deflator is up in the early part of the decade since higher energy prices are only partly offset by reduced aggregate demand and a slight fall in the exchange rate. By the latter half of the decade, however, the two downward pulls on prices begin to dominate, and they and inflation fall below the levels of the pre-Accord projection. Reduced economic activity raises the unemployment rate by about half a percentage point, and the exchange rate goes up because of reduced domestic demand and reduced petroleum imports.

For Ontario, the effects on real output and on unemployment are somewhat more severe than for the country as a whole, given the assumption that government does not spend its extra revenue. These factors have the most impact on marginal consumer purchases, such as automobiles and appliances, and on real investment, and Ontario has high shares of both types of industries. Moreover, during the 1986-90 period, the appreciation of the Canadian dollar reduces Canadian exports and increases imports, and Ontario is also more vulnerable to these shocks than is the country as a whole.

In closing, it is worth repeating that the adverse effects on real GNP and employment in Canada and Ontario resulting from the unanticipated elements of the Accord are not caused by the additional price increases. Indeed, the price increases are projected to have worthwhile effects in stimulating some additional output and in reducing consumption. Rather, the adverse effects are primarily the result of the allocation and eventual use of the additional revenues generated. Even so, effects on real GNP and employ-

⁵ At time of writing, the Alberta government announced a program whereby several billions of dollars would be returned to corporations in the 1982-5 period. This may be something of a recognition that too little was left to the corporations under the Accord.

The Ontario Economy 1982 - 1995

TABLE 5.2

National effects of unanticipated elements of Accord: summary

	Annual average	
	1982-5	1986-90
Real GNP (% change)	-0.3	-0.9
GNP deflator (% change)	0.6	-0.2
Industrial bond rate (change in % points)	-0.3	-0.7
Unemployment rate (change in % points)	0.4	0.5
Exchange rate (% change)	0.7	1.4
Total government balance (change in \$ millions)	2095	1882

NOTE: See note to Table 5.1.

TABLE 5.3

Effects on Ontario economy of unanticipated elements of Accord: summary

	Annual average	
	1982-5	1986-90
Real GDP at factor cost (% change)	-1.1	-1.3
GDP deflator (% change)	0.2	-0.9
Unemployment rate (change in % points)	0.5	0.7
Real domestic product (% change)		
Manufacturing	-1.5	-1.5
Goods-producing industries (including manufacturing)	-1.4	-1.5
Services	-1.1	-1.4

NOTE: See note to Table 5.1.

ment are not necessarily the only factors that should be considered in evaluating policy.

Table 5.4

Effects of the Energy Accord on energy variables (percentage changes from pre-Accord projection, unless otherwise indicated)

PRODUCTION/DEMAND	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
PETROLEUM PRODUCTION										
CONVENTIONAL CRUDE (OLD)	-1.03	-6.00	-9.71	-12.71	-17.00	-20.79	-24.86	-28.00	-32.88	-37.00
CONVENTIONAL CRUDE (NEW)*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SYNTHETIC	-	-	-	-	-	-	-	-	-	-
TERTIARY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FRONTIER-HIBERNIA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL PETROLEUM PRODUCTION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOMESTIC DEMAND FOR PETROLEUM	0.0	0.0	0.41	0.48	0.70	0.81	0.88	0.81	0.88	1.10
	0.0	-0.18	-0.45	-0.93	-1.80	-2.22	-2.64	-3.00	-3.40	-3.88
TOTAL NATURAL-GAS PRODUCTION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOMESTIC DEMAND FOR NATURAL GAS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOMESTIC PRICES										
WELL-HEAD PRICE, CONVENTIONAL CRUDE (OLD)	1.00	7.65	18.26	27.71	33.60	27.82	24.76	21.46	20.32	20.13
ENERGY AGREEMENT BASE FOR WELL-HEAD PRICE	0.44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
REFINERS' ACQUISITION PRICE (BLENDED PRICE)	0.75	8.78	9.20	15.15	21.62	19.84	13.93	11.26	11.88	12.51
NEW OIL REFERENCE PRICE										
OIL IMPORT PRICE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	-0.08	-0.43	0.07	-1.16	-1.22	-0.80	-0.00	-1.13	-2.11	-3.16
PRICE FOR NEW CONVENTIONAL CRUDE										
PRICE FOR TERTIARY PRODUCTION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PRICE FOR FRONTIER-HIBERNIA PRODUCTION	0.0	40.84	44.53	48.38	48.53	5.28	-6.27	-4.71	-3.80	-3.78
PRICE FOR SYNTHETIC-OIL PRODUCTION	1.14	0.68	3.20	4.23	6.75	9.28	-6.27	-4.71	-3.80	-3.78
NETBACK ON NATURAL GAS, DOMESTIC SALES										
NETBACK ON NATURAL GAS, EXPORT SALES	-0.41	4.87	-8.77	-4.28	-2.62	-9.43	-15.41	-19.67	-22.88	-25.76
WEIGHTED NETBACK PRICE, NATURAL GAS	2.13	10.15	10.86	8.46	7.30	6.80	6.78	4.78	3.00	1.22
TORONTO CITYGATE PRICE, NATURAL GAS	0.87	7.84	2.13	3.28	2.78	-0.26	-2.25	-6.56	-8.17	-11.60
	-0.24	2.81	-6.46	-2.91	-2.48	-8.80	-11.86	-15.23	-18.14	-20.88

Pre-Record Issue is year: see total production

* Pre-Accord base is zero; see total production

Table 5.4 continued

EXTERNAL TRADE

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
EXCHANGE RATE (Cdn\$/US\$)	-0.08	-0.43	0.07	-1.16	-1.23	-0.80	-0.00	-1.13	-2.11	-3.16
CRUDE-OIL IMPORT PRICE (US\$/MBL.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CRUDE-OIL IMPORT PRICE (Cdn\$/MBL.)	-0.08	-0.43	0.07	-1.16	-1.23	-0.80	-0.00	-1.13	-2.11	-3.16
OIL IMPORTS (EX SNAPS) (WILL./MBL.)	0.0	-0.48	-3.07	-4.87	-7.36	-9.18	-12.24	-24.38	-27.48	-27.18
OIL IMPORTS (Cdn./MBL.)	-0.08	-1.00	-2.48	-8.26	-7.36	-8.54	-10.23	-19.03	-22.12	-23.43
NATURAL-GAS EXPORTS (BILL. CU. FT.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OIL EXPORTS (EX SNAPS) (WILL./MBL.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OIL & GAS EXPORTS (Cdn./MBL.)	-0.08	-0.43	0.06	-1.14	-1.22	-0.81	0.01	-1.07	-2.06	-3.14

REVENUES & SUBSIDIES

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
FEDERAL										
PETROLEUM COMPENSATION CHARGE	0.0	0.97	-17.10	-23.39	-18.85	-10.84	-30.88	-22.56	-39.70	-17.14
CANADIAN OWNERSHIP CHARGE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PETROLEUM EXPORT TAX	-1.22	-11.87	-18.38	-25.00	0.0	0.0	0.0	0.0	0.0	0.0
TAX ON NAT'L & GAS LIQUIDS	-8.06	-23.97	-26.42	-38.94	-38.48	-37.99	-27.34	-37.09	-36.86	-36.13
PETROLEUM & NAT'L GAS REVENUE TAX	74.98	123.13	151.68	166.87	185.63	143.82	101.36	70.84	49.84	32.21
(INCLUDES 50% TAX ON NEW WELLHEAD - MEP)										
SUBSIDIES ON PETROLEUM IMPORTS	-1.47	-13.91	-34.04	-43.82	-59.68	-60.80	-48.28	-55.08	-60.22	-63.66
TOTAL IMPORT & PROD'N SUBSIDIES	-0.50	4.94	1.79	-14.88	-38.36	-34.66	-40.81	-38.96	-37.68	-38.82
TOTAL PROVINCIAL ROYALTIES	0.39	10.48	13.60	17.47	18.96	15.16	8.17	5.67	3.84	2.41
GROSS COMP. REVENUES (PRE-TAX)	0.41	8.48	11.90	14.76	16.35	13.22	7.15	5.83	2.84	2.79

ENERGY IMPACTS - SUMMARY TABLE

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
CHANGE IN NET IMPORTS (\$BILLIONS)	0	-58	-273	-472	-883	-1306	-1770	-2142	-2636	-3297

REAL INVESTMENT & OUTPUT: EMPLOYMENT (\$71 MILLIONS)

OIL & GAS INVESTMENT IN STRUCTURES	-288	-248	-316	-278	-197	-234	-286	-284	-212	-188
OIL & GAS INVESTMENT IN MACH-EQUIP	-41	-34	-43	-38	-38	-34	-43	-43	-31	-23
REAL OUTPUT: OIL & GAS SECTOR	0	0	8	6	7	8	10	11	12	13
EMPLOYMENT: OIL & GAS SECTOR	0	0	0	0	0	0	0	0	1	1

FEDERAL & PROVINCIAL REVENUES, SUBSIDIES (\$BILLIONS)

FEDERAL INDIRECT TAXES	-87	-901	-1871	-2430	-1863	-1464	-2645	-3214	-2896	-2313
FEDERAL OIL & GAS REVENUE TAX	958	1813	3044	3878	4246	4283	3886	3114	2464	1803
FEDERAL SUBSIDIES	-17	180	78	-67	-1206	-1118	-2847	-3134	-3423	-4187
PROVINCIAL ROYALTIES	24	782	1201	1883	2300	2113	1850	1777	938	643
FEDERAL CAPITAL ASSISTANCE	-89	-870	-825	-827	-837	-837	-837	-837	-837	-837
PROVINCIAL CAPITAL ASSISTANCE	90	682	877	1123	1157	1182	1228	1286	1304	1346

CORPORATE SECTOR (\$BILLIONS)

OIL & GAS SECTOR REVENUES PRE-TAX	59	1424	2482	3736	4461	4125	2641	1859	1816	1000
OIL & GAS SECTOR REVENUES AFTER-TAX	-814	-844	-1182	-1135	-899	-1168	-1803	-1718	-1346	-1053
EXTRA NON-ENERGY PROFIT	0	0	3	4	5	6	8	10	12	14
WAGES & SALARIES FROM OIL & GAS PROD'N	0	0	8	11	18	18	28	30	36	42
CAP CORP ALLOWANCES, OIL & GAS SECTOR	-86	-141	-236	-332	-387	-461	-585	-645	-745	-781
FOREIGN DIRECT INVESTMENT IN OIL & GAS	0	0	0	0	0	0	0	0	0	0
COMP. BOND ISSUES ABROAD FOR OIL & GAS	-82	-76	-108	-102	-80	-108	-144	-154	-121	-84

Table 5.5
National effects of the Energy Accord
(percentage changes from pre-Accord projection)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
GROSS NATIONAL PRODUCT	-0.28	-0.19	-0.28	-0.16	-0.41	-0.68	-0.48	-0.47	-1.08	-1.82
IMPLICIT PRICE DEFATOR FOR GNP	-0.01	0.34	0.38	0.78	1.02	0.75	0.38	-0.12	-0.65	-1.31
REAL GROSS NATIONAL PRODUCT	-0.29	-0.52	-0.66	-0.94	-1.41	-1.42	-0.77	-0.38	-0.42	-0.62
EXPENDITURE ON PERSONAL CONSUMPTION	-0.11	-0.48	-0.74	-1.15	-1.87	-1.78	-1.48	-1.12	-1.14	-1.32
EXPENDITURE BY GOVERNMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INVESTMENT EXPENDITURE	-1.36	-1.02	-1.12	-0.81	-0.69	-0.82	-0.70	-0.52	-0.56	-0.49
CONSTRUCTION	0.06	0.35	0.48	0.52	0.54	0.41	0.28	0.52	0.77	0.82
RESIDENTIAL CONSTRUCTION	-1.88	-1.34	-1.82	-1.29	-1.02	-1.13	-0.89	-0.88	-0.89	-0.77
NON-RESIDENTIAL AND MACH. & EQUIP.	-3.08	-0.32	-0.64	-0.88	-1.92	-2.29	-1.22	-0.10	0.03	-0.32
EXPORTS	-0.40	-0.46	-0.88	-1.00	-1.22	-1.89	-2.11	-1.87	-1.33	-1.47
IMPORTS	-0.00	-0.60	-0.90	-0.01	-0.01	-0.01	-0.00	0.00	0.00	0.00
CAPACITY UTILIZATION RATE *	0.07	0.18	0.28	0.42	0.65	0.78	0.80	0.84	0.89	0.94
UNEMPLOYMENT RATE *	-0.12	-0.32	-0.48	-0.70	-1.08	-1.29	-0.88	-0.87	-0.98	-0.72
EMPLOYMENT	0.08	1.10	0.82	1.37	1.18	1.12	1.06	1.00	0.94	0.88
NARROWLY DEFINED MONEY SUPPLY, M1	-0.08	-0.32	-0.20	-0.37	-0.40	-0.48	-0.58	-0.37	-0.48	-0.67
FINANCE CO. 90-DAY PAPER RATE *	-0.03	-0.07	-0.26	-0.34	-0.47	-0.63	-0.70	-0.78	-0.73	-0.78
INDUSTRIAL BOND RATE *	-0.02	0.28	0.42	0.60	0.84	0.78	0.80	-0.01	-0.32	-1.08
CONSUMER PRICE INDEX	-0.04	-0.08	-0.09	-0.09	-0.13	-0.30	-0.48	-0.78	-1.35	-2.08
AVERAGE ANNUAL WAGES AND SALARIES	-0.20	-0.38	-0.29	-0.47	-0.69	-0.53	-0.18	-0.24	-0.47	-0.59
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	0.08	0.42	-0.06	1.14	1.24	0.82	-0.01	1.06	2.08	2.24
EXCHANGE RATE (US \$/CAN \$)	-0.00	0.97	0.59	1.59	2.16	1.80	0.72	0.17	0.15	0.15
TERMS OF TRADE (PX/PW)	394	898	1087	2476	2487	3003	3848	6311	7216	8262
BALANCE ON CURRENT ACCOUNT (\$ BILL.) *	0	0	0	0	0	0	0	0	0	0
CHANGE IN FOREIGN RESERVES (\$ BILL.) *	0	0	0	0	0	0	0	0	0	0
CONSOLIDATED GOVERNMENT BALANCE (\$ BILL.) *	549	1333	1564	2581	2802	2119	2189	2315	1648	1142
PERSONAL SAVINGS RATE (%) *	-0.02	0.08	0.20	0.42	0.80	0.68	0.87	0.88	0.77	0.80
PERSONAL AFTER-TAX CORPORATE PROFITS	-4.83	-4.40	-5.50	-6.06	-7.22	-6.82	-5.86	-1.71	-2.78	-2.17
REAL PERSONAL DISPOSABLE INCOME	-0.14	-0.47	-0.57	-0.72	-1.06	-1.14	-0.89	-0.42	-0.25	-0.52

NOTE: * indicates change in levels.

Table 5.6
Effects on Ontario of the Energy Accord
(percentage changes from pre-Accord projection)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
PROVINCIAL GROSS DOMESTIC PRODUCT	-0.42	-0.68	-1.17	-1.48	-1.88	-2.11	-1.82	-1.83	-2.34	-3.31
REAL PROVINCIAL GNP AT FACTOR COST	-0.20	-0.62	-0.80	-1.21	-1.80	-1.84	-1.31	-0.81	-1.08	-1.41
DEFLATOR, PROV'L GNP AT FACTOR COST	-0.11	0.20	0.13	0.22	0.05	-0.14	-0.32	-0.59	-1.29	-2.13
REAL PERSONAL DISP. INCOME PER CAP.	-0.14	-0.88	-0.78	-1.30	-1.82	-1.48	-1.12	-0.70	-0.71	-0.88
ANNUAL WAGES & SALARIES PER EMPLOYEE	-0.08	-0.10	-0.13	-0.17	-0.28	-0.36	-0.42	-0.48	-1.36	-3.19
GNP AT FACTOR COST PER EMPLOYEE	-0.20	-0.28	-0.30	-0.48	-0.72	-0.86	-0.18	-0.22	-0.47	-0.88
LABOUR FORCE										
EMPLOYMENT	-0.02	-0.07	-0.10	-0.14	-0.23	-0.28	-0.18	-0.10	-0.11	-0.18
UNEMPLOYMENT RATE (%) *	-0.10	-0.32	-0.80	-0.74	-1.18	-1.38	-1.04	-0.60	-0.81	-0.82
	0.08	0.38	0.37	0.85	0.90	1.06	0.80	0.47	0.48	0.83
REAL DOMESTIC PRODUCT - MANUFACTURING	-0.22	-0.77	-1.01	-1.43	-2.70	-2.72	-1.37	-0.90	-1.17	-1.88
GNP - GOODS-PRODUCING INDUSTRIES	-0.44	-0.80	-1.06	-1.43	-2.50	-2.85	-1.41	-0.88	-1.17	-1.78
GNP - SERVICE INDUSTRIES	-0.28	-0.60	-0.74	-1.25	-1.78	-1.82	-1.28	-1.04	-1.18	-1.43

NOTE: See note to Table 5.5

Table 5.7
Effects of the Energy Accord on real outputs and deflators by province
(percentage changes from pre-Accord projection)

	REAL GDP									
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
CANADA	-0.31	-0.60	-0.77	-1.17	-1.77	-1.81	-1.16	-0.80	-1.02	-1.31
NEWFOUNDLAND	-0.32	-0.58	-0.78	-1.16	-1.68	-1.76	-1.18	-0.82	-0.98	-1.25
PRINCE EDWARD ISLAND	-0.27	-0.81	-0.67	-1.00	-1.44	-1.45	-0.80	-0.70	-0.84	-1.08
NOVA SCOTIA	-0.27	-0.82	-0.75	-1.12	-1.52	-1.57	-0.80	-0.70	-0.84	-1.08
NEW BRUNSWICK	-0.31	-0.82	-0.78	-1.12	-1.52	-1.57	-1.11	-0.79	-0.95	-1.22
QUEBEC	-0.30	-0.62	-0.80	-1.20	-1.83	-1.86	-1.21	-0.87	-1.10	-1.40
ONTARIO	-0.30	-0.62	-0.80	-1.21	-1.80	-1.84	-1.21	-0.81	-1.08	-1.41
MANITOBA	-0.28	-0.58	-0.78	-1.18	-1.78	-1.82	-1.18	-0.86	-1.06	-1.37
SASKATCHEWAN	-0.28	-0.60	-0.81	-1.23	-1.87	-1.89	-1.34	-0.94	-1.12	-1.43
ALBERTA	-0.38	-0.60	-0.77	-1.08	-1.53	-1.58	-1.04	-0.72	-0.86	-1.08
BRITISH COLUMBIA	-0.33	-0.58	-0.78	-1.11	-1.63	-1.68	-1.08	-0.73	-0.90	-1.16
YUKON & N.W.T.	-0.26	-0.41	-0.50	-0.71	-0.99	-0.97	-0.54	-0.28	-0.36	-0.51
EXTERNAL & DISCREPANCY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	GDP DEFATORS									
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
CANADA	-0.00	0.57	0.88	1.17	1.06	0.88	0.18	-0.25	-0.97	-1.83
NEWFOUNDLAND	-0.08	0.22	0.16	0.28	0.16	-0.04	-0.30	-0.53	-1.23	-2.07
PRINCE EDWARD ISLAND	-0.08	0.18	0.11	0.22	0.09	-0.12	-0.38	-0.68	-1.35	-2.22
NOVA SCOTIA	-0.08	0.33	0.44	0.65	0.55	0.28	-0.08	-0.42	-1.12	-1.98
NEW BRUNSWICK	-0.08	0.33	0.19	0.33	0.20	-0.11	-0.21	-0.57	-1.23	-2.08
QUEBEC	-0.11	0.11	0.15	0.26	0.08	-0.14	-0.32	-0.89	-1.28	-2.13
ONTARIO	-0.11	0.30	0.22	0.32	0.21	-0.03	-0.28	-0.87	-1.28	-2.16
MANITOBA	-0.08	0.28	0.18	0.32	0.21	-0.03	-0.28	-0.87	-1.28	-2.16
SASKATCHEWAN	0.08	0.78	1.29	1.65	1.53	1.04	0.38	1.02	1.03	1.88
ALBERTA	0.81	2.17	4.03	5.05	5.08	3.83	2.16	1.03	0.20	-0.73
BRITISH COLUMBIA	-0.01	0.85	0.82	1.13	1.01	0.65	0.18	-0.26	-0.88	-1.84
YUKON & N.W.T.	0.07	0.50	0.82	1.11	1.11	0.78	0.21	-0.28	-0.81	-1.80

Table 5.8

Effects of the Energy Accord on Ontario's real outputs by industry
(percentage changes from pre-Accord projection)

	1981	1982	1983	1984	1985	1986	1987	1988	1990
1 AGRICULTURE, FISHING & TRAPPING	-0.06	-0.64	-1.08	-1.74	-2.02	-2.30	-2.13	-1.30	-1.68
2 FORESTRY	-0.34	-0.54	-0.78	-0.87	-1.72	-1.96	0.15	-0.39	-0.58
3 MINERAL FUEL MINES & WELLS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4 OTHER MINES & QUARRIES	-0.40	-0.57	-0.80	-0.87	-1.87	-2.08	-1.03	-0.04	-0.35
5 FOOD, FEED, BEVERAGES & TOBACCO	-0.08	-0.72	-1.21	-1.98	-2.22	-2.34	-2.33	-1.67	-2.05
6 TEXTILES & CLOTHING	-0.07	-0.51	-0.76	-0.91	-2.04	-2.02	-1.00	-0.21	-0.75
7 WOOD & FURNITURE	-0.44	-0.82	-0.78	-0.75	-1.37	-1.64	-0.80	0.03	-0.71
8 PAPER, PRINTING & ALLIED INDUSTRIES	-0.18	-0.84	-0.78	-1.21	-2.09	-2.29	-1.44	-0.71	-0.87
9 PRIMARY METAL & METS	-0.49	-0.72	-0.81	-1.13	-2.17	-2.23	-1.02	-0.19	-0.68
10 MOTOR VEHICLES & PARTS	-0.38	-1.00	-1.59	-1.91	-2.44	-2.70	-1.75	0.42	-0.70
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	-0.36	-0.78	-0.84	-1.13	-1.78	-2.08	-0.51	-0.06	-1.30
12 ELECTRICAL PRODUCTS	-0.45	-0.71	-0.87	-0.84	-1.78	-2.08	-0.51	-0.06	-1.30
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	-0.31	-0.89	-1.21	-1.83	-2.14	-1.95	-0.48	0.06	-0.71
14 NON-METALLIC MINERAL PRODUCTS	-1.14	-1.16	-1.42	-1.50	-2.03	-2.13	-2.00	-1.39	-1.98
15 OTHER MANUFACTURING INDUSTRIES	-0.14	-0.79	-0.86	-1.44	-2.64	-2.36	-1.30	-0.68	-0.94
TOTAL MANUFACTURING	-0.33	-0.77	-1.01	-1.43	-2.70	-2.72	-1.37	-0.50	-1.17
16 CONSTRUCTION	-1.47	-1.15	-1.41	-1.17	-1.05	-1.25	-1.02	-0.82	-0.41
17 ELECTRIC POWER, WATER & GAS UTILITIES	-0.26	-0.78	-1.07	-1.73	-2.56	-2.65	-1.83	-1.56	-0.26
TOTAL GOODS-PRODUCING INDUSTRIES	-0.44	-0.80	-1.08	-1.43	-2.50	-2.55	-1.41	-0.65	-1.17
18 TRANSPORTATION & STORAGE	-0.28	-0.60	-0.76	-1.29	-2.01	-2.02	-1.18	-0.82	-1.12
19 COMMUNICATION	-0.30	-0.66	-0.79	-1.37	-1.80	-2.02	-1.18	-0.82	-1.12
20 TRADE	-0.28	-0.65	-0.82	-1.26	-2.03	-2.15	-1.32	-1.18	-1.39
21 FINANCE, INSURANCE & REAL ESTATE	-0.12	-0.33	-0.39	-0.67	-1.11	-1.16	-0.49	-0.82	-1.00
22 OTHER SERVICE INDUSTRIES	-0.36	-0.78	-0.91	-1.74	-2.13	-2.08	-1.65	-0.34	-0.59
TOTAL SERVICE INDUSTRIES	-0.26	-0.60	-0.74	-1.25	-1.79	-1.82	-1.26	-1.04	-1.19
23 GOVERNMENT SECTOR	0.01	-0.03	-0.04	-0.05	-0.08	-0.07	-0.05	0.04	0.15
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	-0.30	-0.62	-0.80	-1.21	-1.80	-1.84	-1.21	-0.81	-1.08

Table 5.3
Effects of the Energy Accord on Ontario's employment by industry
(percentage changes from pre-Accord projections)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1 AGRICULTURE, FISHING & TRAPPING	0.16	-0.30	-0.71	-1.14	-2.15	-2.49	-1.51	-0.82	-1.02	-1.51
2 FORESTRY	-0.13	-0.27	-0.51	-0.82	-1.11	-1.53	-1.00	-0.53	0.03	-0.18
3 MINERAL FUEL MINES & WELLS	0.21	0.28	0.29	0.48	0.70	0.55	0.23	0.34	0.61	0.70
4 OTHER MINES & QUARRIES	-0.17	-0.27	-0.48	-0.47	-1.17	-1.55	-0.83	0.30	0.26	-0.13
5 FOOD, FEED, BEVERAGES & TOBACCO	0.13	-0.44	-0.82	-1.50	-2.63	-2.93	-2.23	-1.44	-1.61	-2.14
6 TEXTILES & CLOTHING	0.14	-0.22	-0.38	-0.44	-1.40	-1.55	-0.82	0.11	-0.20	-0.67
7 WOOD & FURNITURE	-0.21	-0.32	-0.42	-0.25	-0.66	-1.10	-0.68	0.37	0.56	0.36
8 PAPER, PRINTING & ALLIED INDUSTRIES	0.02	-0.22	-0.53	-0.78	-1.83	-1.82	-1.35	-0.45	-0.47	-0.89
9 PRIMARY METAL & METAL FABRICATING	-0.28	-0.46	-0.83	-0.88	-1.55	-1.79	-0.88	0.20	-0.13	-0.64
10 MOTOR VEHICLES & PARTS	-0.16	-0.77	-1.26	-0.85	-1.55	-1.79	-0.88	0.20	-0.13	-0.64
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	-0.07	-0.30	-0.21	-0.38	-1.10	-1.58	-1.70	0.81	-0.19	-1.61
12 ELECTRICAL PRODUCTS	-0.24	-0.44	-0.40	-0.38	-1.12	-1.10	-0.18	0.39	-0.46	-0.89
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	-0.09	-0.58	-0.89	-1.18	-1.18	-1.11	-0.29	0.40	-0.17	-0.61
14 NON-METALLIC MINERAL PRODUCTS	-0.83	-0.78	-1.02	-0.83	-2.48	-2.53	-1.82	-1.11	-1.47	-2.03
15 OTHER MANUFACTURING INDUSTRIES	0.05	-0.58	-0.65	-1.12	-2.29	-2.14	-1.95	-0.85	-0.33	-0.51
TOTAL MANUFACTURING	-0.10	-0.45	-0.67	-0.89	-1.95	-2.14	-1.15	-0.16	-0.60	-1.16
16 CONSTRUCTION	-1.36	-0.95	-1.22	-0.78	-0.45	-0.84	-0.91	-0.36	0.14	0.35
17 ELECTRIC POWER, WATER & GAS UTILITIES	-0.06	-0.46	-0.79	-1.28	-1.96	-2.23	-1.81	-1.34	-1.38	-1.73
TOTAL GOODS-PRODUCING INDUSTRIES	-0.23	-0.49	-0.74	-0.90	-1.74	-1.97	-1.18	-0.28	-0.53	-0.88
18 TRANSPORTATION & STORAGE	-0.04	-0.29	-0.43	-0.75	-1.28	-1.45	-0.86	-0.49	-0.54	-0.79
19 COMMUNICATION	-0.10	-0.41	-0.54	-0.88	-1.35	-1.82	-1.32	-0.87	-0.95	-1.12
20 TRADE	-0.06	-0.34	-0.59	-0.75	-1.32	-1.55	-1.27	-0.50	-0.70	-0.70
21 FINANCE, INSURANCE & REAL ESTATE	0.08	-0.08	-0.11	-0.20	-0.45	-0.66	-0.46	-0.02	0.14	0.11
22 OTHER SERVICE INDUSTRIES	-0.05	-0.30	-0.38	-0.85	-0.89	-1.16	-1.14	-1.20	-1.07	-1.12
TOTAL SERVICE INDUSTRIES	-0.04	-0.29	-0.43	-0.75	-1.06	-1.27	-1.09	-0.82	-0.72	-0.85
23 GOVERNMENT SECTOR	0.00	-0.00	-0.00	-0.01	-0.04	-0.06	-0.07	-0.06	-0.04	-0.04
TOTAL: ALL SECTORS	-0.10	-0.33	-0.50	-0.74	-1.19	-1.39	-1.04	-0.60	-0.61	-0.82

Appendix A

The Impact of the Alsands cancellation

This study's macroeconomic models, constructed in February 1982, assume the building of two megaprojects for the production of petroleum from the Alberta oil sands. The textual comments, which were written two months later, follow suit, although Chapter 2 does include a suggestion that this assumption might prove too optimistic. A few weeks after the writing of that chapter, events overtook this book's production schedule; the Alsands project is now cancelled - or, perhaps more likely, postponed for several years.

This appendix uses the FOCUS and PRISM models to examine the impact of the Alsands cancellation - assumed to be permanent - on the Canadian and provincial economies through 1990. The method involves projecting and analysing five scenarios. Some of them present alternative government policy responses to the cancellations; others alter assumptions about the way in which the plant might have been built.

ASSUMPTIONS

Since the Alsands project never reached the detailed planning stage, analysing the effects of its cancellation requires making several assumptions about what its schedule, financing, production, and pricing might have been. One must also be quite clear about certain aspects of the economic environment projected for the rest of the decade.

Profile of Alsands construction and output

Analysts do not agree on the exact profile of what Alsands investment and

Appendix A

output would have been. The schedule used here, which is shown in Table A.1, is no more than an approximation. It assumes that investment would have begun in 1982 and peaked in 1986, with the plant coming on stream in 1988 and achieving full output in 1989. Existing estimates of gross expenditures were converted into real investment in millions of 1971 dollars, like the figures that eventually would have appeared in the National Accounts.¹

Economic environment

The impact of the Alsands cancellation is measured by removing the investment and output profiled in Table A.1 from the base-case projections of Chapters 2 and 3. It is worth reviewing here features of the base case that play an important part in the projected results of the cancellation:

- After the current recession ends, the economy expands at a rate gradually approaching the potential growth rate. This amount of slack is such that Alsands would have crowded out some other investment - that is, the slack is not so great that such a project could have been constructed 'for free' from a large stock of unemployed resources. On the other hand, the crowding out would have been partial; since the base-case projection shows some unemployed resources, Alsands could have been built without displacing an equal amount of other expenditures.

- Real world oil prices remain approximately constant from 1982 to 1985, then rise at about 5 per cent per year.² This pessimistic view of world prices means that the 'lost' oil of the cancelled Alsands project is relatively expensive in 1988-90, so the effect on the Canadian balance of payments is larger than would be the case if the oil-price projections were more optimistic. Still, the effects of the cancellation on the balance of payments are of such magnitude that they would be very important even if we assumed considerably lower world oil prices.

1 The current dollar figure was obtained by multiplying the real estimates by deflators from Chapter 2's base-case projection.

2 Viewed from mid-1982, this projection may appear overly pessimistic; yet oil-prices projections have been very unreliable in the past, and a conservative estimate of future oil prices seems warranted for a long-run study.

The Effect of the Alsands Cancellation

TABLE A.1

Assumed profile of investment in and output from Alsands

	Structures investment	Machinery & equipment investment	Total investment outlays	Output	
	Millions of 1971 \$s		Millions of current \$s	Mill. bbl. per year	Thous. bbl. per day
1982	120	80	531	-	-
1983	200	140	982	-	-
1984	250	170	1307	-	-
1985	300	200	1699	-	-
1986	350	240	2170	-	-
1987	250	170	1636	-	-
1988	100	70	701	25	68
1989	-	-	-	50	137
1990	-	-	-	50	137

- In the base case, Canada is still importing petroleum in 1990, even with Alsands production. The cancellation of the project means importing additional oil - or adopting crash conservation or rationing measures. Even if the country were to achieve self-sufficiency by the end of the decade, the cancellation would affect the balance of payments so long as any production beyond domestic needs could be exported at world prices. The Alsands cancellation would not affect our balance of payments late in the decade only in the unlikely eventuality that Canada were self-sufficient when the plan was projected to begin production and that no export markets were then available.

Psychological impact

Since Alsands was considered a 'flagship' or 'model' megaproject, its cancellation may have repercussions on business confidence and investment plans that are far greater than would be caused by a similar reduction in less-visible investment or other autonomous expenditure. It is in analysing such

Appendix A

effects, however, that macroeconomic models are least useful; one must resort to surveys, casual empiricism, and just plain judgement. To keep the experiment 'clean', no psychologically induced changes in investment - no ripple effects - have been assumed.³ (Of course, the model still generates normal reactions in investment and other expenditures.) This decision is not intended to imply that the psychological effects are not important. However, it seems best to leave out of the equations what would essentially be a 'judgement call' so as to make clear what the models are saying in themselves.

Monetary response

Clearly, the cancellation of Alsands has an appreciable effect on the Canadian economy, especially during 1988-90 when the country must import the petroleum that would have been supplied by the project. When a shock has a major effect on the economy, it is appropriate to ask what policy response might follow. Many stances would be possible; to keep the analysis manageable, the simulations are confined to two, both involving exchange-rate and monetary policies.⁴

Scenario 1 assumes that the Bank of Canada does not change its monetary policy. It allows interest rates and the exchange rate to adjust to clear their respective markets, and there is no intervention in the foreign-exchange market - that is, the float is 'clean'.

Alternatively, in Scenario 2, the Bank adjusts its monetary policy so as to keep unchanged the exchange rate projected for the 1980s in the base case - that is, the exchange rate is a managed rate. Late in the decade, this stance, of course, requires considerable monetary restriction and raising of interest rates to keep the Canadian dollar from depreciating.

Most likely, the policy stance actually adopted will be somewhere between these two scenarios, with some movement in both the exchange rate and monetary policy. Predicting the exact final mix is difficult, but as we shall see, there is a great deal of room between the two extremes, especially in the 1988-90 period.

3 The 'extraordinary' impacts of the Alsands cancellation need not all be negative. It may leave room for investment in alternative-energy sources, conservation, and so on.

4 Of course, the government could also undertake other fiscal or monetary initiatives, including schemes to boost investment in alternative-energy projects or in other sectors of the economy.

Behaviour of prices

Setting an assumption for pricing presents a particular problem since one of the current major controversies in applied macroeconomics concerns the formation of the aggregate price level. One view, loosely associated with the neoclassicists or monetarists, holds that prices are set to clear markets under profit-maximization - at least, in all but the very short run. The other view, loosely associated with the Keynesians or post-Keynesians, holds that prices are set largely by major corporations on the basis of rule-of-thumb mark-ups over costs - at least, in all but the very long run.⁵

Most of the scenarios here assume the mark-up pricing approach. Scenario 3, however, uses the market-clearing price assumption in combination with a floating exchange rate. The cancellation of the project removes some aggregate demand from the base-case projection, so the price level - no matter how it is calculated - tends to fall below the base-case level (that is, the inflation rate is somewhat lower). Under the mark-up model, however, prices are 'stickier' and fall less than under a market-clearing mechanism; the tendency, therefore, is a larger decline in real output and a smaller decline in prices.⁶

Provincial and sectoral effects

To examine the provincial and sectoral effects of the cancellation, FOCUS's national results are supplemented by the PRISM model using a very simple set of assumptions. First, all direct changes caused by the cancellation in the

5 Each side is often willing to concede the other's case, but only in the irrelevant period. The 'mark-up group' insists that the short run is a sufficiently long period to worry about; the 'market-clearing group' suggests that it is not. It is likely that some sectors are closer to one approach and some to the other.

FOCUS cannot reconcile this debate, but it can take it into account - at least in the formation of the aggregate price level - because the model offers both a mark-up price equation and a market-clearing price mechanism. (Unfortunately, an acceptable synthesis of the two does not yet exist.)

6 Since the output declines in Scenarios 1 and 2 will probably strike most readers as low, it seemed best to use the mark-up rule as standard, leaving market-clearing prices as an alternative. Note, however, that the market-clearing concept is not unimportant; it is implicit in the notion that inflation can be fought effectively with fiscal and monetary restraint that reduces aggregate demand.

Appendix A

value-added of the construction and nonmetallic minerals industries are placed in Alberta, as is all change in the value-added of the mineral-fuels sector during the simulation years the project would have been in production (1988-90).

Then, all the machinery-and-equipment expenditures that would have been made for Alsands are distributed across industries in approximate proportion to the average distribution of all such expenditures in Canada.⁷ All domestic purchases of machinery and equipment would, by assumption, have been fully tradeable or mobile goods. Thus, their supply could be assigned to the various provinces, according to the base case's provincial shares for the appropriate sectors, even though the purchases would all have been put in place in Alberta.⁸

In addition, the assumption is that the import content of machinery and equipment expenditures for Alsands would have been the economy-wide average of 36 per cent. Detailed analysis of the project may suggest that foreign purchases would have made up a smaller percentage of its machinery and equipment. Sensitivity tests on the model suggest, however, the overall macroeconomic results do not greatly depend on alternative import contents. Scenario 4 illustrates this point by lowering the import content of Alsand's machinery and equipment to 20 per cent, while maintaining the other assumptions of Scenario 1.

Sources of financing

Another key factor is the source of the funds the project would have used. The assumption here is that 50 per cent of them would have been borrowed outside Canada, with capital service on the debt postponed until the plant

7 This is clearly an oversimplification; for example, Alsands might have used more primary-metal products (such as pipe) and less transport machinery than the average project.

8 This is an oversimplification, but a necessary one. Machinery and equipment industries in Alberta would probably have received more of a boost from Alsands than those in Ontario and Quebec, so the cancellation's impacts on Alberta and the West are probably somewhat understated in the results. Yet it is important to realize how mobile even heavy machinery is, as evidenced from the volume of international trade in such goods. The claim that at least certain sectors of the Ontario economy would have benefited from Alsands (in its requirements for steel, machinery, and so on) was not an empty one.

The Effect of the Alsands Cancellation

was in production. Cancellation of the project, therefore, entails a reduction in long-term capital inflows in 1982-8.

To test the sensitivity of the results to this assumption, Scenario 5 assumes instead that there would have been no foreign borrowing for the project. (Of course, capital flows still respond to induced changes in other variables.) It turns out that results are indeed sensitive to the assumed level of foreign borrowing.

SUMMARY OF SCENARIOS

To summarize, the five scenarios are:

- Scenario 1. The profile of the Alsands project incorporates all the points explained in the previous sections, including 50 per cent of the required capital being borrowed from foreign sources and a 36-per-cent import content for machinery and equipment. Mark-up pricing is used. On cancellation of the project, the exchange rate remains fully flexible, and the Bank of Canada holds its money-supply targets at base-case levels.
- Scenario 2. All assumptions are the same as in Scenario 1, except the Bank of Canada fixes the exchange rate to the base-case level in each year by altering the money supply.
- Scenario 3. All assumptions are the same as in Scenario 1, except for the use of a market-clearing price mechanism.
- Scenario 4. All assumptions are the same as in Scenario 1, except the import content of machinery and equipment for Alsands would have been 20 per cent.
- Scenario 5. All assumptions are the same as in Scenario 1, except the project would have used no foreign borrowing; secondary, induced changes in capital flows are still permitted.

RESULTS: THE CANADIAN ECONOMY

Summary results for the Alsands cancellation, vis-à-vis the base case, are presented in Tables A.2 through A.6; each table corresponds to one of the five scenarios. In discussing the results, it is useful to consider separately the construction phase of the project (1982-7) and the production phase (1988-90).

TABLE A.2
The national economy and the Alsaada cancellation: Scenario 1 (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Gross national product	-0.10	-0.16	-0.19	-0.21	-0.21	-0.09	0.50	1.69	2.47
Implicit price deflator for GNP	0.02	0.01	0.00	0.00	0.02	0.01	0.35	1.06	1.89
Real gross national product	-0.12	-0.17	-0.20	-0.22	-0.22	-0.10	0.15	0.62	0.57
Personal consumption	-0.04	-0.07	-0.09	-0.11	-0.12	-0.09	-0.28	-0.15	0.06
Expenditure by governments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Investment expenditure	-0.71	-1.11	-1.22	-1.31	-1.39	-0.75	-0.05	0.38	0.26
Residential construction	-0.00	-0.00	0.04	0.04	0.04	0.04	-0.45	-1.13	-1.24
Nonresidential and M & E	-0.86	-1.33	-1.48	-1.58	-1.66	-0.89	0.01	0.63	0.48
Exports	0.00	0.04	0.06	0.07	0.10	0.12	0.42	1.42	1.32
Imports	-0.24	-0.42	-0.46	-0.51	-0.55	-0.32	-0.74	-0.81	-0.39
Capacity utilization rate*	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00
Unemployment rate	0.03	0.05	0.06	0.07	0.06	0.03	-0.05	-0.27	-0.36
Employment	-0.04	-0.09	-0.10	-0.11	-0.11	-0.05	0.08	0.44	0.60
Narrowly defined money supply (M1)	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Finance co. 90-day paper rate*	-0.02	-0.04	-0.04	-0.05	-0.05	-0.02	0.11	0.37	0.54
Industrial bond rate	-0.01	-0.03	-0.04	-0.05	-0.06	-0.06	0.13	0.28	0.39
Consumer price index	0.02	0.00	-0.02	-0.00	0.01	0.01	0.90	1.82	2.29
Average annual wages and salaries	0.00	-0.01	-0.04	-0.06	-0.06	-0.06	0.40	1.33	2.26
Productivity change (GDP/employee)	-0.08	-0.08	-0.09	-0.11	-0.12	-0.05	0.12	0.29	0.08
Exchange rate (US \$/CDM \$)	-0.10	-0.12	-0.11	-0.16	-0.20	-0.12	-2.69	-4.15	-3.79
Terms of trade (FX/PM)	-0.06	-0.09	-0.08	-0.11	-0.14	-0.09	-1.59	-2.56	-1.95
Balance on current account (\$ mill)*	221	515	636	822	1038	801	-1217	-1275	-1110
Change in foreign reserves (\$ mill)*	0	0	0	0	0	0	0	0	0
Consolidated govt balance (\$ mill)*	-167	-312	-373	-424	-459	-204	1555	3492	3353
Personal savings rate (%)*	-0.03	-0.02	-0.01	-0.02	-0.02	0.00	-0.20	-0.13	0.09
Nominal after-tax corporate profits	-0.33	-0.18	0.12	0.36	0.63	1.19	2.24	3.60	2.63
Real personal disposable income	-0.08	-0.09	-0.11	-0.14	-0.15	-0.09	-0.50	-0.27	0.20

NOTE: * indicates change in levels.

TABLE A.3

The national economy and the Alands cancellation: Scenario 2 (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Gross national product	-0.16	-0.25	-0.30	-0.35	-0.39	-0.24	-0.91	-1.52	-1.39
Implicit price deflator for GNP	-0.00	-0.02	-0.05	-0.07	-0.08	-0.09	-0.36	-0.58	-0.58
Real gross national product	-0.15	-0.22	-0.25	-0.28	-0.30	-0.15	-0.56	-0.94	-0.82
Personal consumption	-0.04	-0.09	-0.11	-0.14	-0.16	-0.14	-0.23	-0.39	-0.42
Expenditure by governments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Investment expenditure	-0.79	-1.17	-1.32	-1.44	-1.54	-0.78	-2.17	-3.23	-2.57
Residential construction	-0.12	-0.04	-0.10	-0.14	-0.16	0.06	-3.04	-4.38	-3.99
Nonresidential and M & E	-0.93	-1.41	-1.57	-1.70	-1.80	-0.93	-2.03	-3.05	-2.36
Exports	-0.02	-0.02	-0.00	0.02	0.04	0.08	0.02	-0.03	-0.10
Imports	-0.24	-0.40	-0.47	-0.50	-0.53	-0.31	-0.45	-0.51	-0.49
Capacity utilization rate*	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	-0.00	-0.00	-0.00
Unemployment rate	0.04	0.07	0.08	0.09	0.09	0.05	0.15	0.26	0.26
Employment	-0.06	-0.12	-0.14	-0.15	-0.16	-0.08	-0.24	-0.42	-0.43
Narrowly defined money supply (M1)	-0.07	-0.17	-0.16	-0.24	-0.28	-0.30	-3.71	-6.62	-1.01
Finance co. 90-day paper rate*	-0.91	-0.01	-0.02	-0.01	-0.01	-0.02	0.92	1.48	-0.06
Industrial bond rate	-0.01	-0.02	-0.02	-0.02	-0.02	-0.04	0.42	0.82	1.23
Consumer price index	-0.02	-0.04	-0.07	-0.08	-0.09	-0.07	-0.09	-0.11	-0.11
Average annual wages and salaries	-0.02	-0.06	-0.10	-0.15	-0.18	-0.19	-0.32	-0.48	-0.41
Productivity change (GNP/employee)	-0.09	-0.11	-0.11	-0.13	-0.15	-0.06	-0.35	-0.46	-0.27
Exchange rate (US \$/DEM \$)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Terms of trade (PX/PM)	-0.01	-0.03	-0.06	-0.08	-0.10	-0.09	-0.77	-1.32	-1.27
Balance on current account (\$ mill)*	252	495	642	789	982	697	-779	-2543	-2993
Change in foreign reserves (\$ mill)*	0	0	0	-1	0	1	1	1	0
Consolidated govt balance (\$ mill)*	-223	-388	-472	-565	-661	-297	-2006	-3917	-3392
Personal savings rate (%)*	-0.03	-0.02	-0.03	-0.03	-0.03	-0.01	-0.18	-0.25	0.18
Nominal after-tax corporate profits	-0.48	-0.37	0.09	0.14	0.35	1.08	-1.68	-3.87	-3.64
Real personal disposable income	-0.07	-0.12	-0.14	-0.18	-0.20	-0.16	-0.26	-0.50	0.51

* See note to Table A.2

TABLE A.4
The national economy and the Alsands cancellation: Scenario 3 (percentage change from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Gross national product	-0.19	-0.34	-0.50	-0.62	-0.69	-0.52	0.37	2.14	3.15
Implicit price deflator for GNP	-0.10	-0.23	-0.39	-0.52	-0.63	-0.59	0.09	1.48	2.50
Real gross national product	-0.09	-0.11	-0.11	-0.10	-0.06	0.07	0.28	0.65	0.64
Personal consumption	-0.03	-0.05	-0.07	-0.10	-0.11	-0.08	-0.29	-0.17	0.16
Expenditure by governments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Investment expenditure	-0.72	-1.15	-1.30	-1.34	-1.33	-0.56	-0.32	1.00	0.91
Residential construction	0.05	0.16	0.26	0.31	0.33	0.32	-0.31	-1.34	-1.62
Nonresidential and M & E	-0.88	-1.42	-1.62	-1.67	-1.64	-0.71	0.43	1.37	1.30
Exports	0.02	0.14	0.24	0.34	0.47	0.55	0.79	1.55	1.13
Imports	-0.33	-0.55	-0.62	-0.67	-0.69	-0.35	-0.55	-0.31	-0.04
Capacity utilization rate*	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	0.01	0.00
Unemployment rate	0.04	0.07	0.09	0.09	0.08	0.02	-0.11	-0.40	-0.49
Employment	-0.06	-0.12	-0.15	-0.16	-0.13	-0.04	0.18	0.66	0.81
Narrowly defined money supply (M1)	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Finance co. 90-day paper rate*	-0.04	-0.08	-0.11	-0.14	-0.15	-0.12	0.08	0.47	0.69
Industrial bond rate	-0.03	-0.07	-0.11	-0.14	-0.17	-0.16	0.07	0.33	0.43
Consumer price index	-0.08	-0.20	-0.34	-0.44	0.51	0.46	0.72	2.20	2.78
Average annual wages and salaries	-0.03	-0.13	-0.28	-0.42	-0.53	-0.55	0.05	1.40	2.77
Productivity change (GDP/employee)	-0.02	0.01	0.03	0.04	0.05	0.08	0.11	0.07	-0.05
Exchange rate (US \$/CDM \$)	-0.05	0.01	0.13	0.16	0.18	0.20	-2.59	-4.46	-4.23
Terms of trade (PL/PM)	-0.13	-0.22	-0.28	-0.39	-0.46	-0.40	-1.70	-2.31	-1.61
Balance on current account (\$ mill)*	288	657	901	1118	1421	1167	-1054	-1687	-1728
Change in foreign reserves (\$ mill)*	0	0	0	0	0	0	0	0	0
Consolidated govt balance (\$ mill)*	-263	-467	-606	-655	-643	-90	2465	5535	4450
Personal savings rate (%)*	0.01	0.02	0.03	0.01	0.01	-0.01	-0.30	-0.32	0.09
Nominal after-tax corporate profits	-0.66	-0.53	-0.28	0.14	0.58	1.63	3.70	6.04	3.51
Real personal disposable income	-0.03	-0.04	-0.05	-0.01	-0.12	-0.12	-0.63	-0.48	0.36

*See note to Table A.2.

TABLE A.5

The national economy and the Alsands cancellation: Scenario 4 (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Gross national product	-0.11	-0.15	-0.16	-0.16	-0.15	-0.04	0.52	1.68	2.45
Implicit price deflator for GNP	0.02	0.03	0.04	0.04	0.08	0.07	0.39	1.07	1.89
Real gross national product	-0.13	-0.18	-0.19	-0.22	-0.23	-0.11	0.13	0.60	0.55
Personal consumption	-0.04	-0.07	-0.09	-0.12	-0.13	-0.10	-0.28	-0.16	0.05
Expenditure by governments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Investment expenditure	-0.71	-1.10	-1.21	-1.30	-1.40	-0.78	-0.11	0.32	0.21
Residential construction	-0.00	-0.02	0.00	-0.01	-0.02	-0.01	-0.47	-1.14	-1.26
Nonresidential and M & E	-0.85	-1.32	-1.46	-1.56	-1.65	-0.92	-0.05	0.55	0.43
Exports	0.00	0.06	0.10	0.11	0.14	0.14	0.42	1.40	1.31
Imports	-0.23	-0.40	-0.45	-0.49	-0.53	-0.31	-0.74	-0.83	-0.41
Capacity utilization rate*	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00
Unemployment rate	0.03	0.05	0.06	0.06	0.06	0.03	-0.04	-0.25	-0.35
Employment	-0.05	-0.09	-0.10	-0.11	-0.11	-0.05	0.07	0.42	0.58
Narrowly defined money supply (M1)	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Finance co. 90-day paper rate*	-0.02	-0.03	-0.03	-0.04	-0.03	-0.01	0.11	0.37	0.54
Industrial bond rate	-0.01	-0.02	-0.04	-0.04	-0.05	-0.05	0.14	0.29	0.39
Consumer price index	0.03	0.03	0.03	0.06	0.08	0.06	0.93	1.82	2.29
Average annual wages and salaries	0.00	0.00	-0.01	-0.01	-0.00	-0.01	0.43	1.34	2.25
Productivity change (GDP/employee)	-0.08	-0.08	-0.09	-0.10	-0.12	-0.05	0.12	0.28	0.08
Exchange rate (US \$/Cdn \$)	-0.13	-0.20	-0.21	-0.28	-0.33	-0.19	-2.70	-4.14	-3.80
Terms of trade (PX/PM)	-0.06	-0.11	-0.12	-0.16	-0.18	-0.11	-1.59	-2.55	-1.96
Balance on current account (\$ mill)*	198	475	657	777	988	791	-1223	-1287	-1127
Change in foreign reserves (\$ mill)*	0	0	0	0	0	0	0	0	0
Consolidated govt balance (\$ mill)*	-165	-296	-339	-381	-429	-228	1464	3376	3281
Personal savings rate (%)*	-0.03	-0.03	-0.02	-0.02	-0.02	0.01	-0.19	-0.13	0.08
Nominal after-tax corporate profits	-0.33	-0.17	0.17	0.36	0.62	1.13	2.12	3.48	2.57
Real personal disposable income	-0.08	-0.11	-0.12	-0.15	-0.16	-0.09	-0.49	-0.28	0.19

* See note to Table A.2.

TABLE A. 6
The national economy and the Alsands cancellation: Scenario 5 (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Gross national product	-0.19	-0.46	-0.64	-0.70	-0.73	-0.48	0.36	1.66	2.56
Implicit price deflator for GNP	-0.02	-0.14	-0.27	-0.36	-0.41	-0.37	0.08	0.89	1.87
Real gross national product	-0.18	-0.32	-0.37	-0.34	-0.31	-0.11	0.28	0.76	0.68
Personal consumption	-0.04	-0.08	-0.14	-0.17	-0.18	-0.19	-0.32	-0.15	0.03
Expenditure by governments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Investment expenditure	-0.76	-1.23	-1.34	-1.33	-1.30	-0.47	0.36	0.81	0.63
Residential construction	0.05	0.14	0.23	0.22	0.24	0.20	-0.38	-1.05	-1.25
Nonresidential and M & E	-0.93	-1.51	-1.66	-1.64	-1.59	-0.59	0.48	1.11	0.91
Exports	-0.07	-0.19	-0.23	-0.13	-0.01	0.12	0.64	1.68	1.54
Imports	-0.17	-0.28	-0.36	-0.39	-0.35	-0.23	-0.67	-0.66	-0.32
Capacity utilization rate*	-0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.01	0.00
Unemployment rate	0.04	0.10	0.14	0.14	0.11	0.05	-0.08	-0.33	-0.42
Employment	-0.07	-0.17	-0.24	-0.23	-0.19	-0.09	0.14	0.55	0.70
Narrowly defined money supply (M1)	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Finance co. 90-day paper rate*	-0.04	-0.10	-0.14	-0.16	-0.16	-0.11	0.08	0.36	0.56
Industrial bond rate	-0.03	-0.08	-0.12	-0.16	-0.20	-0.18	0.02	0.20	0.36
Consumer price index	-0.06	-0.21	-0.30	-0.35	-0.39	-0.24	0.74	1.73	2.40
Average annual wages and salaries	-0.05	-0.16	-0.32	-0.44	-0.51	-0.46	0.11	1.17	2.23
Productivity change (GDP/employee)	-0.12	-0.17	-0.17	-0.15	-0.16	-0.06	0.16	0.29	0.07
Exchange rate (US \$/CDM \$)	0.25	0.54	0.56	0.52	0.60	0.10	-2.56	-4.03	-3.90
Terms of trade (PX/PM)	0.08	0.14	0.07	-0.04	-0.05	-0.25	-1.78	-2.72	-2.26
Balance on current account (\$ mill)*	239	343	319	415	622	255	-1308	-1437	-1698
Change in foreign reserves (\$ mill)*	0	0	0	0	0	0	0	0	0
Consolidated govt balance (\$ mill)*	-286	-739	-953	-995	-1074	-600	1722	3691	3778
Personal savings rate (%)*	-0.01	0.00	-0.02	-0.05	-0.04	-0.05	-0.22	-0.12	0.04
Nominal after-tax corporate profits	-0.69	-1.04	-0.60	0.13	0.60	1.78	3.32	4.52	3.56
Real personal disposable income	-0.05	-0.09	-0.19	-0.26	-0.25	-0.27	-0.57	-0.26	0.13

*See note to Table A.2.

The Effect of the Alsands Cancellation

TABLE A.7

Real GNP 'multipliers' for the cancellation of Alsands

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
1982	0.84	1.03	0.59	1.85	1.18
1983	0.71	0.91	0.46	0.72	1.29
1984	0.68	0.86	0.39	0.66	1.28
1985	0.65	0.84	0.29	0.64	1.03
1986	0.59	0.80	0.16	0.59	0.82
1987	0.38	0.56	-0.27	0.42	0.43

NOTE: The 'multiplier' is defined in each year as the change from the base-case real GNP divided by the loss of assumed investment (from Table A.1, columns 1 and 2).

The construction phase (1982-7)

It is no surprise that the cancellation of Alsands reduces real GNP in the construction phase. In fact, the surprise may be how little GNP falls (recall that the model assumes no psychological aftershocks). For the various scenarios, Table A.7 shows multipliers⁹, the ratios of the changes in real GNP to the 'lost' real investments (the sum of the first and second columns in Table A.1). Virtually all the 'multipliers' are less than unity, indicating that the final effect on real GNP is smaller than the reduction in real investment. (Table A.8 gives a breakdown of the Scenario 1 changes in major real-expenditure components.)

This finding may be less of a surprise to readers familiar with macroeconomic models when they recall that estimates of autonomous-expenditure multipliers have been falling steadily over the years. In the recent versions of FOCUS, for example, only particular policy configurations make government-expenditure multipliers greater than unity even initially, and they almost invariably decay over time. And while most multiplier estimates are done for government expenditures, it is not unreasonable that other types of autonomous expenditures should have similar effects - psychological impacts aside. Like government expenditures, the Alsands investment in its construction phase would not have contributed to the productive capital stock and could

⁹ Strictly speaking, a multiplier should only be calculated for a shock of constant real magnitude, while the Alsands real-investment profile has a hump shape.

TABLE A.8
Components of real GNP and the Alands cancellation: Scenario 1 (changes from base case in millions of 1971 dollars)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Real gross national product	-166	-241	-284	-326	-347	-159	254	1069	1011
Personal consumption	-34	-56	-78	-103	-118	-88	-281	-158	65
Expenditure by governments	0	0	0	0	0	0	0	0	0
Investment expenditure	-197	-327	-384	-436	-490	-281	-20	162	113
Residential construction	0	0	2	2	2	2	-25	-65	-72
Nonresidential and M & E	-196	-327	-387	-439	-492	-283	5	227	186
Exports	0	14	23	24	36	45	166	575	545
Imports	-90	-164	-184	-212	-241	-148	-355	-402	-199

have crowded out other spending in the financial and the goods markets.

The single greatest cause of the low multipliers here, however, is leakage through foreign trade - not only through changes in prices and exchange rates but also simply through changes in marginal incomes. Granted the relatively small effect of changing the import content of the machinery and equipment that would have gone into Alsands - in Table A.7, the multipliers for Scenario 4 are only slightly above those of Scenario 1. But even a relatively small, 20-per-cent import content would still have meant large purchases of foreign goods. Moreover, even the structural portion of Alsands investment would have had an 11-per-cent import content (mostly from intermediate input). Also important is the fact that the most sensitive consumption items (automobiles and other durables) also have large import components; so do inventories. Examination of the real import results in Tables A.2 through A.6 shows clearly how reduction of the assumed import content tends to mitigate the impact of the Alsands cancellation.

The exchange rate also has important effects on the results. In Scenario 1, the multiplier of the Alsands cancellation is further reduced because the exchange rate falls, boosting exports and further reducing imports. When monetary policy fixes the exchange rate (Scenario 2), the multiplier increases, although it is still held down to some extent by the interest-rate increases required to protect the dollar. Scenario 5 assumes Alsands would have used no foreign borrowing, and with the cancellation the Canadian dollar appreciates by slightly more than half a percentage point. Here the cancellation has no immediate effect on capital flows, but it does reduce imports, both directly and from reduced GNP and a slightly lower price level - hence the appreciation, which in turn, somewhat offsets the cushioning impact of import reduction and serves to reduce exports.

Thus, a comparison of Scenarios 1 and 5 shows that the more a project is financed by foreign borrowing, the less its impact on Canadian real GNP. This conclusion is not at all surprising; indeed, at a still higher level of foreign borrowing, the effect on real GNP would have been virtually zero. Of course, assuming that 50-per-cent foreign financing for a project does not necessarily mean that 50 per cent of its inputs will come from abroad - and this would not have been the case with Alsands. Any borrowed funds that were not spent on imports for the project would have been 'translated' into command over real goods and services - into real goods and service flows - via a movement in the exchange rate, which would have caused shifts from

Appendix A

domestic to foreign goods in other expenditure categories, freeing up more domestic resources for the project. Given the assumption that 50 per cent of Alsands would have been financed from abroad, its cancellation means that Canadian expenditures do not have to be switched from domestic production to 'borrowed' foreign goods to free up those resources. The Canadian dollar, therefore, follows a lower path or need not appreciate as much. Under the alternative assumption of no foreign borrowing (Scenario 5), the cancellation means that the Canadian dollar need not depreciate to discourage other importers and encourage exporters to permit the imports Alsands would have required.

Yet as we saw in Table A.5, assuming a lower import content for the project's machinery and equipment (Scenario 4) has relatively little impact on the results. The reason is the offsetting effects of the assumption of 50-per-cent foreign financing. In Scenario 4, the reduced import content means that more of the Alsands investment would have gone directly into demand for domestic products and hence into GNP; thus, one would expect the cancellation to have a greater effect on GNP than in Scenario 1. On the other hand, the assumption of lower imports means that the cancellation entails a smaller reduction in imports to offset the loss of borrowed foreign capital, so the exchange rate tends to fall more in Scenario 4 than in Scenario 1, boosting the economy. (Note, for example, that exports are higher in Scenario 4 than in Scenario 1). The first effect outweighs the second, though only slightly. Thus, we see that when a major project is to be extensively financed by borrowing from foreign sources, its import content may not be a matter of serious concern for the national economy - one way or another, the borrowing of capital abroad must be 'translated' into flows of real goods via imports.¹⁰

The question of whether Alsands would have crowded out other investments is examined for Scenario 1 in Table A.9. The first column of the table shows the total change in real investment directly caused by the Alsands cancellation. The second column is the final change in real investment; the figure is invariably lower than the first and increasingly so over time. The major contributor to this offset is the energy sector itself. Cancellation of Alsands induces a small depreciation that, given export prices for oil and gas

10 Of course, import contents is still important from a sectoral or regional viewpoint.

The Effect of the Alsands Cancellation

TABLE A.9

Investment and the cancellation of Alsands: Scenario 1
(changes from base case)

Millions of 1971 \$				
	Alsands investment ^a	Total business investment	Investment in energy sector	Investment in nonenergy sectors
1982	-200	-197	10	- 7
1983	-340	-328	30	-18
1984	-420	-387	30	-17
1985	-500	-439	95	-11
1986	-590	-492	95	3
1987	-420	-284	107	29

^a See Table A.1, columns 1 and 2.

fixed in U.S.-dollar terms, raises the Canadian-dollar earnings of energy corporations in Canada, even after taxes, and the model assumes that some 90 per cent of these extra earnings are ploughed back into new investment, rather than distributed as dividends. The reaction in the nonenergy sector is different, at least in early years. There, lower interest rates, caused by Alsands being out of the financial market, offer an enticement to invest, but in 1982-5, it is more than offset by reduced real output and profits, which discourage investment. As lower rates persist and profits resume a share of income closer to the base case's, however, investment picks up. So that it can be said that Alsands would have crowded out some private, nonenergy investment by 1986-7.

Next, consider Scenario 3, with its market-clearing prices, in relation to Scenario 1, with its mark-up pricing approach (see Tables A.2 and A.4). The assumption of more flexible prices makes the cancellation of Alsands have a much larger downward impact on the price level in Canada. As a result, Canadian goods are more competitive abroad and imports less attractive, stimulating Canadian production. Moreover, with the Bank of Canada's nominal money-supply targets fixed, a lower price level (and lower nominal GNP) reduces the demand for money relative to the supply and so causes interest rates to fall, also boosting domestic demand. Thus, the assumption of flexible prices much reduces the effects of the Alsands cancellation. Indeed, by 1987, real GNP is back to and even surpasses base-case levels.

Appendix A

Finally, consider the impact of the Alsands cancellation on employment and the unemployment rate. Again, the results may appear small in contrast to expectations: in the worse case - Scenario 5 (Table A.6) - the unemployment rate rises by no more than 0.15 percentage points. Employment falls by a little more than 0.2 per cent in the most seriously affected years (1984-5); in 1985, there is a net loss of about 27,000 jobs. But two factors mitigate the employment and unemployment-rate results. First, the model incorporates a well-established cyclical phenomenon - the 'labour-hoarding' effect. (That is, employment is not immediately reduced in proportion to output; instead, employers accept a productivity decline.) As the real effects gradually worsen for 1982-6 (the missing investment would have had a rising profile during this period), employment adjustment continually lags behind real adjustment and is then caught up in the different disruptions of the production phase. Second, the 'discouraged-worker' effect helps to hold the unemployment rate down. On average, the FOCUS equations show that for every ten jobs lost, four people stop participating in the labour force.

Production phase (1988-90)

According to the base case, Alsands would have begun production by 1988, so from that year on, some domestic oil included in the base case is no longer available in these scenarios. The assumption is that the shortfall must be made up by additional imports purchased at world prices. As shown in Tables A.2 and A.3, the effects of these additional imports vary dramatically in Scenarios 1 and 2. (Results from Scenarios 3, 4, and 5 are not discussed here but can be examined in Tables A.4, A.5 and A.6.)

The increase in oil imports is sizeable enough to have a major impact on the balance of trade. Evaluated at the base-case exchange rate (approximately \$0.87 U.S. in 1988-90), the additional imports cost \$2.5 billion in 1988, \$4.5 billion in 1989, and \$5 billion in 1990. Two possible policy responses are examined in the scenarios.

In Scenario 1, the exchange rate is permitted to float freely in response to the increase in imports. The result is a considerable drop in the rate - about 4 per cent below the base case - with effects as might be expected. Real output receives a major boost, so real GNP surges half a percentage point above the base case in 1989-90. Virtually all the increase is in exports and import-reduction; consumption and investment are, if anything, nega-

tively affected. In other words, the depreciation of the dollar gears up the Canadian economy to produce the extra goods and services needed to 'pay' for foreign oil through increased exports and import-substitution. But Canadians get almost none of this increased output in the form of real income. Petroleum is an expensive import. Note in Table A.2 that the loss of Alsands oil moves the terms of trade a full 2 per cent against Canada.

A second effect of the depreciation of the dollar and the increase in real output is a rise in domestic prices. By 1989-90, the inflation rate for the GNP deflator is somewhat more than half a percentage point more than that in the base case - and not all the exchange-rate effects have yet worked through the economy. The inflation effects on the consumer price index are greater but come earlier.

Finally, note that the fall-off of the dollar does not negate all the impact of the additional oil imports on the balance of trade; the current account moves down against the base case by about \$1 billion in 1988-90. Higher Canadian interest rates and increased activity induce some long-term capital inflows, and the exchange-rate change results in some short-term flows. Together, they offset the \$1 billion decline in the current account.

Scenario 2 assumes an alternative policy response: the Bank of Canada adjusts monetary policy so as to keep the exchange rate from falling by reducing the money supply, raising short-term interest rates and, after a lag, long-term rates as well.¹¹ The rise in interest rates has the dual effect of stimulating capital inflows and of reducing domestic activity, which reduces imports. In brief, Canadians 'pay for' the extra oil imported from abroad partly by increased borrowing abroad and partly by reducing their demand for other kinds of imports. Table A.3 shows - not surprisingly - that the largest impact of the reduction in demand (through higher interest rates) is on investment of all kinds. Despite lower domestic prices, there is little positive stimulus to exports, even by 1990. Part of the cause is again 'labour hoarding', which reduces labour productivity.¹² A positive side

¹¹ Table A.3 shows that reductions in M1 and rises in the ninety-day interest rate move back towards base-case levels in 1990. The model probably does not show long-term rates rising as quickly as they would in a situation such as this. But the important point is that they do rise, with effects on capital flows and domestic activity.

¹² Also, in the FOCUS model, many exports are priced in U.S.-dollar terms; only after a long lag are lower Canadian prices translated into an export advantage.

Appendix A

effect of the monetary restriction is a decline in the inflation rate, but it is much less than half a percentage point.

In summary, as Figures A.1, A.2, and A.3 make clear, the effects of the Alsands cancellation, positive and negative, on real GNP of the production phase dwarf those of the construction phase. The same is true of the changes it induces in interest rates, inflation, the exchange rate, and unemployment rates. The lesson is that the oil 'lost' from Alsands - and the response of monetary policy - is probably more important to Canada's macro-economy than the lost activity of its construction phase.

RESULTS: THE PROVINCIAL ECONOMIES

The basic results of the cancellation of the Alsands project are given in Tables A.10 through A.16 for all the provincial economies, using a comparison of the base case and Scenarios 1, 2, 4, and 5. More detailed results for Ontario and Alberta are in Tables A.17 through A.22 at the end of the chapter. Figures A.4 and A.5 compare the results for real output and unemployment rates in Canada, Ontario, and Alberta under Scenarios 1 and 2. Once again, it is convenient to discuss the construction and production phases separately.

Construction phase (1982-7)

For the most part, the provincial results are qualitatively what one would expect, given the national results. Alberta takes the largest losses in real GDP - somewhat more than 1 per cent of the base-case GDP by 1985-6, when construction would have been most intense. This result shows relatively little variation from scenario to scenario. Alberta suffers both the direct effects of the cancellation of the construction activity and its secondary impact in reduced tertiary-sector growth. The depreciation of the Canadian dollar that occurs in Scenario 1 is of some benefit to Alberta in reducing the impact of the cancellation; additional energy-sector revenues stemming from the depreciation lead to more investment in Alberta - but also elsewhere. The fixed exchange rate of Scenario 2 and the appreciation of Scenario 5 make the outcome for Alberta slightly worse than in Scenario 1.¹³

13 The greater depreciation in Scenario 4 improves the province's situation a trifle.

Figure A.1

Real GNP and the Alsands cancellation
(percentage changes from base case)

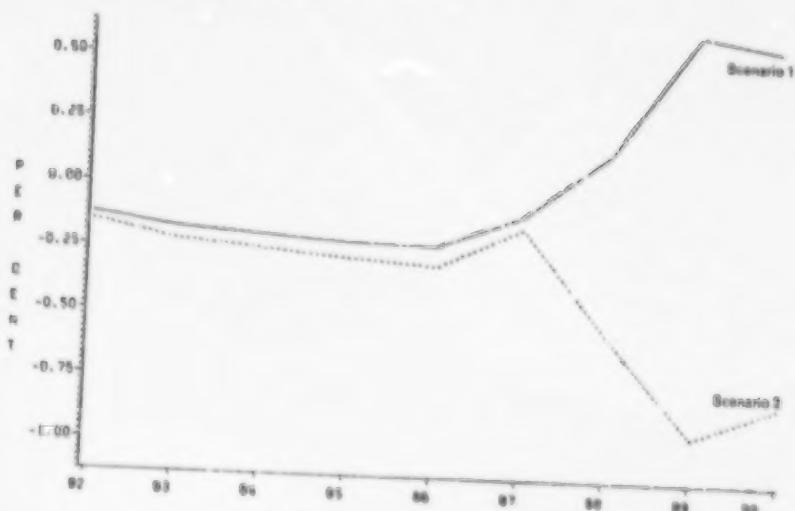
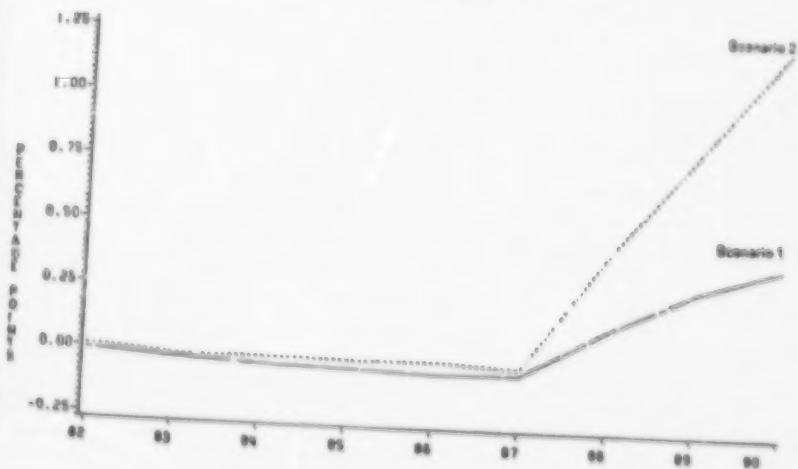


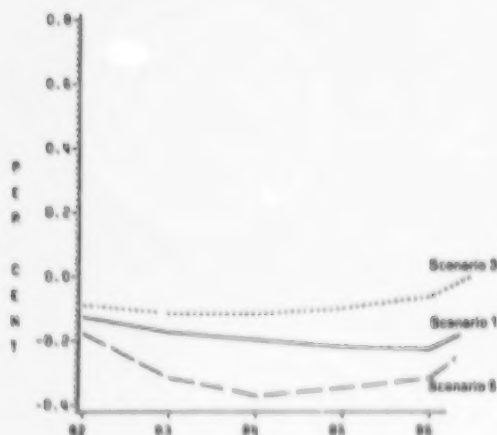
Figure A.2

Bond rates and the Alsands cancellation (changes from base case)



Appendix A

Figure A.3
Real economic activity and the Alameda cancellation
(percentage changes from base case)



The effects of the cancellation on other provinces are all, of course, much smaller than on Alberta. Indeed, the model's percentage changes in GDPs, especially for the smaller provinces, are so tiny that they must be considered impressions at most. One must avoid the temptation to read too much into differences of a few hundredths of a percentage point.

Given that caveat, it is still interesting to note that in Scenario 1, the provinces other than Alberta that are most seriously affected during the early years of the construction phase (1982-4) are Manitoba and British Columbia - and not Ontario. This is partly the result of those provinces' tertiary-sector declines, which are relatively greater than Ontario's. In 1985-6, however, Ontario does emerge as the province most affected after Alberta. Quebec, Manitoba, and B.C. are together at a slightly lower level of impact.

Note that in Scenario 2 and Scenario 5, the reduction in real GDP is relatively more severe for the provinces other than Alberta. In Scenario 5, Ontario also emerges as the second-most-affected province as early as 1982. The 'worst' drop in GDP for any province other than Alberta is a loss of 0.37

TABLE A.10

Real GDPs and the Alameda cancellation: Scenario 1 (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Canada	-0.12	-0.17	-0.20	-0.22	-0.22	-0.10	0.20	0.73	0.68
Newfoundland	0.01	0.00	-0.02	-0.04	-0.02	0.05	0.24	0.64	0.59
Prince Edward Island	0.16	0.18	0.11	0.04	0.05	0.09	0.19	0.41	0.32
New Scotia	0.09	0.10	0.04	-0.01	-0.00	0.05	0.22	0.56	0.48
New Brunswick	-0.01	-0.01	-0.04	-0.04	-0.03	0.04	0.26	0.66	0.59
Quebec	-0.09	-0.11	-0.11	-0.10	-0.09	-0.00	0.30	0.85	0.81
Ontario	-0.07	-0.09	-0.10	-0.12	-0.12	-0.02	0.34	1.00	0.95
Manitoba	-0.11	-0.13	-0.14	-0.10	-0.09	-0.00	0.29	0.78	0.72
Saskatchewan	-0.05	-0.05	-0.04	-0.03	-0.00	0.07	0.28	0.71	0.67
Alberta	-0.51	-0.70	-0.94	-1.06	-1.18	-0.83	-0.54	-0.21	-0.23
British Columbia	-0.11	-0.13	-0.13	-0.10	-0.08	0.01	0.29	0.76	0.69

TABLE A.11

Real GDPs and the Alameda cancellation: Scenario 2 (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Canada	-0.16	-0.22	-0.26	-0.28	-0.30	-0.14	-0.59	-0.88	-0.70
Newfoundland	-0.09	-0.11	-0.11	-0.10	-0.10	0.02	-0.43	-0.70	-0.54
Prince Edward Island	-0.06	-0.06	-0.04	-0.04	-0.03	0.05	-0.34	-0.57	-0.44
New Scotia	-0.08	-0.10	-0.10	-0.09	-0.08	0.02	-0.38	-0.61	-0.47
New Brunswick	-0.09	-0.11	-0.11	-0.11	-0.10	0.01	-0.44	-0.72	-0.55
Quebec	-0.11	-0.15	-0.16	-0.16	-0.17	-0.04	-0.48	-0.75	-0.57
Ontario	-0.13	-0.17	-0.19	-0.20	-0.21	-0.06	-0.50	-0.78	-0.58
Manitoba	-0.10	-0.14	-0.15	-0.15	-0.15	-0.03	-0.45	-0.69	-0.52
Saskatchewan	-0.08	-0.09	-0.09	-0.08	-0.07	0.04	-0.40	-0.67	-0.52
Alberta	-0.49	-0.77	-0.94	-1.10	-1.24	-0.85	-1.37	-1.80	-1.57
British Columbia	-0.11	-0.14	-0.15	-0.15	-0.15	-0.01	-0.50	-0.80	-0.62

TABLE A.12

Real GDP and the Alameda cancellation: Scenario 5 (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Canada	-0.19	-0.34	-0.61	-0.38	-0.35	-0.15	0.30	0.84	0.77
Newfoundland	-0.05	-0.13	-0.18	-0.16	-0.11	0.03	0.34	0.75	0.67
Prince Edward Island	0.12	0.06	0.00	-0.02	0.01	0.10	0.27	0.50	0.30
Nova Scotia	0.04	-0.02	-0.10	-0.11	-0.07	0.04	0.31	0.65	0.54
New Brunswick	-0.06	-0.15	-0.20	-0.16	-0.12	0.02	0.35	0.76	0.67
Quebec	-0.15	-0.28	-0.32	-0.27	-0.23	-0.06	0.39	0.95	0.88
Ontario	-0.14	-0.29	-0.35	-0.32	-0.28	-0.09	0.44	1.11	1.03
Manitoba	-0.17	-0.29	-0.33	-0.25	-0.21	-0.05	0.38	0.87	0.79
Saskatchewan	-0.11	-0.20	-0.23	-0.16	-0.11	0.03	0.37	0.81	0.75
Alberta	-0.57	-0.92	-1.10	-1.18	-1.26	-0.83	-0.62	-0.07	-0.11
British Columbia	-0.17	-0.29	-0.32	-0.26	-0.19	-0.01	0.39	0.88	0.79

TABLE A.13

Employment and unemployment rates with the Alameda cancellation: Scenario 1

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Employment									
Canada	-0.04	-0.09	-0.10	-0.11	-0.11	-0.05	0.08	0.44	0.60
Newfoundland	0.06	0.06	0.04	0.03	0.06	0.08	0.12	0.38	0.52
Prince Edward Island	0.14	0.15	0.10	0.06	0.07	0.08	0.07	0.23	0.34
Nova Scotia	0.13	0.13	0.09	0.05	0.07	0.08	0.11	0.32	0.43
New Brunswick	0.06	0.03	0.02	0.02	0.04	0.07	0.12	0.36	0.50
Quebec	-0.01	-0.02	-0.01	0.01	0.03	0.06	0.16	0.51	0.68
Ontario	0.02	0.00	0.01	-0.00	0.02	0.05	0.19	0.63	0.80
Manitoba	-0.06	-0.05	-0.04	0.00	0.03	0.05	0.16	0.45	0.60
Saskatchewan	0.06	0.05	0.07	0.10	0.16	0.14	0.15	0.42	0.58
Alberta	-0.50	-0.81	-1.00	-1.14	-1.28	-0.94	-0.62	-0.25	-0.09
British Columbia	-0.04	-0.06	-0.04	0.01	0.05	0.08	0.15	0.45	0.59
Unemployment rates									
Canada	0.43	0.45	0.46	0.47	0.46	0.43	-0.05	-0.27	-0.36
Newfoundland	-5.01	-0.01	-0.00	-0.00	-0.01	-0.02	-0.03	-0.11	-0.15
Prince Edward Island	-0.43	-0.46	-0.42	-0.41	-0.42	-0.42	-0.42	-0.4	-0.41
Nova Scotia	-0.43	-0.43	-0.42	-0.41	-0.41	-0.42	-0.43	-0.43	-0.44
New Brunswick	-0.42	-0.41	-0.40	-0.40	-0.41	-0.43	-0.45	-0.49	-0.56
Quebec	0.00	0.01	0.01	0.01	-0.40	-0.42	-0.46	-0.51	-0.59
Ontario	-0.01	0.00	0.00	0.01	-0.40	-0.42	-0.46	-0.51	-0.59
Manitoba	0.43	0.43	0.43	0.40	-0.41	-0.43	-0.46	-0.51	-0.59
Saskatchewan	-0.40	-0.40	-0.41	-0.42	-0.43	-0.43	-0.46	-0.51	-0.59
Alberta	0.26	0.42	0.51	0.58	0.65	0.48	0.31	0.11	0.02
British Columbia	0.43	0.44	0.43	-0.40	-0.42	-0.45	-0.46	-0.49	-0.59

NOTE: Figures for employment changes are percentage changes from base case; changes in unemployment rate are calculated as the scenario's rate for each year minus the base case's.

TABLE A.14
Employment and unemployment rates with the Alands cancellation: Scenario 2

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Employment									
Canada	-0.06	-0.12	-0.14	-0.15	-0.16	-0.08	-0.24	-0.42	-0.43
Newfoundland	-0.01	-0.03	-0.03	-0.01	0.00	0.05	-0.15	-0.34	-0.36
Prince Edward Island	-0.00	-0.02	-0.02	0.00	0.02	0.05	-0.11	-0.26	-0.28
Nova Scotia	-0.01	-0.03	-0.02	-0.00	0.01	0.05	-0.11	-0.27	-0.29
New Brunswick	-0.02	-0.04	-0.04	-0.02	-0.01	0.04	-0.16	-0.35	-0.36
Quebec	-0.02	-0.04	-0.04	-0.03	-0.01	0.03	-0.14	-0.31	-0.33
Ontario	-0.03	-0.06	-0.07	-0.06	-0.04	0.01	-0.15	-0.33	-0.33
Manitoba	-0.01	-0.03	-0.03	-0.02	-0.00	0.03	-0.11	-0.26	-0.28
Saskatchewan	0.02	0.02	0.04	0.07	0.10	0.12	-0.05	-0.23	-0.27
Alberta	-0.44	-0.76	-0.96	-1.16	-1.31	-0.97	-1.04	-1.21	-1.18
British Columbia	-0.02	-0.04	-0.03	-0.01	0.01	0.06	-0.17	-0.38	-0.40
Unemployment rates									
Canada	0.04	0.07	0.08	0.09	0.09	0.05	0.15	0.26	0.26
Newfoundland	0.01	0.01	0.02	0.01	0.01	-0.01	0.05	0.11	0.11
Prince Edward Island	0.00	0.01	0.01	0.00	-0.00	-0.01	0.04	0.09	0.09
Nova Scotia	0.01	0.01	0.02	0.01	0.01	-0.01	0.05	0.10	0.11
New Brunswick	0.01	0.02	0.03	0.02	0.01	-0.01	0.09	0.19	0.20
Quebec	0.01	0.02	0.03	0.02	0.02	-0.00	0.07	0.16	0.17
Ontario	0.02	0.05	0.06	0.05	0.04	0.00	0.13	0.27	0.27
Manitoba	0.01	0.02	0.02	0.01	0.01	-0.02	0.07	0.16	0.16
Saskatchewan	-0.00	-0.00	-0.00	-0.01	-0.02	-0.02	-0.02	0.07	0.08
Alberta	0.22	0.38	0.49	0.59	0.67	0.49	0.53	0.63	0.61
British Columbia	0.01	0.03	0.03	0.01	-0.00	-0.04	0.12	0.26	0.27

NOTE: See note to Table A.13.

TABLE A.15

Employment and unemployment rates with the Alsands cancellation: Scenario 5

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Employment									
Canada	-0.07	-0.17	-0.24	-0.23	-0.19	-0.09	0.14	0.55	0.70
Newfoundland	0.05	-0.01	-0.06	-0.05	0.00	0.06	0.19	0.49	0.62
Prince Edward Island	0.13	0.11	0.03	0.00	0.04	0.07	0.12	0.31	0.41
Nova Scotia	0.12	0.08	0.00	-0.02	0.03	0.07	0.16	0.41	0.51
New Brunswick	0.03	-0.03	-0.09	-0.06	-0.01	0.05	0.18	0.47	0.59
Quebec	-0.03	-0.11	-0.15	-0.11	-0.06	0.01	0.21	0.61	0.76
Ontario	-0.01	-0.10	-0.16	-0.15	-0.09	-0.02	0.24	0.73	0.88
Manitoba	-0.06	-0.13	-0.16	-0.10	-0.04	0.01	0.19	0.54	0.68
Saskatchewan	0.02	-0.02	-0.05	0.00	0.08	0.11	0.21	0.52	0.67
Alberta	-0.51	-0.88	-1.10	-1.21	-1.32	-0.95	-0.52	-0.10	0.05
British Columbia	-0.06	-0.13	-0.16	-0.08	-0.01	0.06	0.23	0.57	0.70
Unemployment rates									
Canada	0.04	0.10	0.14	0.14	0.11	0.05	-0.08	-0.33	-0.42
Newfoundland	-0.01	0.01	0.03	0.02	0.01	-0.01	-0.05	-0.14	-0.18
Prince Edward Island	-0.03	-0.03	-0.00	0.00	-0.01	-0.02	-0.04	-0.11	-0.13
Nova Scotia	-0.03	-0.02	0.01	0.02	0.00	-0.01	-0.05	-0.13	-0.17
New Brunswick	-0.01	0.02	0.05	0.04	0.01	-0.02	-0.09	-0.24	-0.31
Quebec	0.01	0.05	0.07	0.06	0.04	0.01	-0.18	-0.26	-0.33
Ontario	0.01	0.08	0.12	0.12	0.08	0.02	-0.17	-0.54	-0.66
Manitoba	0.04	0.07	0.10	0.06	0.03	-0.01	-0.11	-0.31	-0.38
Saskatchewan	0.00	0.01	0.02	0.01	-0.01	-0.02	-0.05	-0.14	-0.18
Alberta	0.27	0.45	0.56	0.62	0.67	0.48	0.26	0.03	-0.05
British Columbia	0.05	0.09	0.11	0.06	0.01	-0.04	-0.15	-0.38	-0.46

NOTE: See note to Table A.13.

Appendix A

TABLE A.16

The early effects of the Alsands cancellation on provinces' real GDPs: a comparison of Scenarios 1 and 4 (percentage changes from base case)

	1982		1985	
	Scenario 1	Scenario 4	Scenario 1	Scenario 4
Newfoundland	0.01	-0.06	-0.04	-0.04
Prince Edward Island	0.16	-0.03	0.04	0.0
Nova Scotia	0.09	-0.05	-0.01	-0.04
New Brunswick	-0.01	-0.06	-0.04	-0.05
Quebec	-0.09	-0.08	-0.10	-0.10
Ontario	-0.07	-0.09	-0.13	-0.12
Manitoba	-0.11	-0.07	-0.10	-0.08
Saskatchewan	-0.05	-0.05	-0.03	-0.02
Alberta	-0.51	-0.45	-1.06	-1.04
British Columbia	-0.11	-0.08	-0.10	-0.08

per cent for Ontario in 1984 under Scenario 5.¹⁴

The cancellation also has effects on employment and the unemployment rate. In Scenario 1, virtually all of this impact is concentrated in Alberta, where employment falls by more than 1 per cent in 1984-6 and the unemployment rate rises by more than 0.5 per cent. The latter effect might, of course, be mitigated by interprovincial migration - the cancellation of Alsands jobs probably means less migration to Alberta - but fewer workers moving there would also entail higher unemployment rates in other provinces.¹⁵

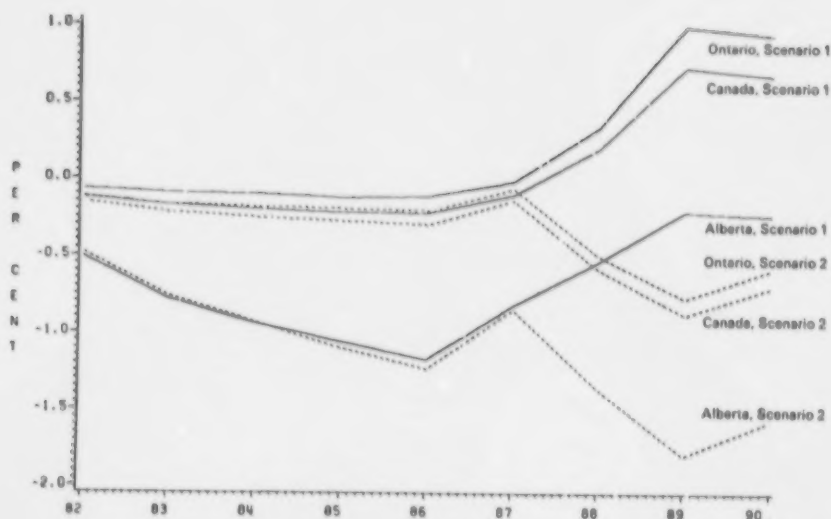
Interestingly, in Scenario 1 employment effects are marginally positive in all provinces but Alberta by 1986. It would be prudent, however, to discount this finding. It results from the model's implicit assumptions that the labour market is an aggregate and that an upturn in unemployment and a downturn in activity lowers wages and induces 'labour hoarding' in all sectors and regions. No doubt a certain amount of crossregional and cross-sectoral labour-market integration exists, but the model probably overstates it. Thus,

14 Under Scenario 4 additional depreciation offsets the additional reduction in domestic demand caused by the cancellation. This affects Ontario's GDP in 1982-4, since more of the cancelled machinery and equipment would have been bought in Ontario. However, by 1985 additional depreciation stimulates Ontario's export and import-competing sectors, offsetting the lost orders from Alsands.

15 Recall that interprovincial migration is not endogenous to the PRISM model and is not included in the assumptions for this experiment.

The Effect of the Alsands Cancellation

Figure A.4
Real growth and the Alsands cancellation
(percentage changes from base case)



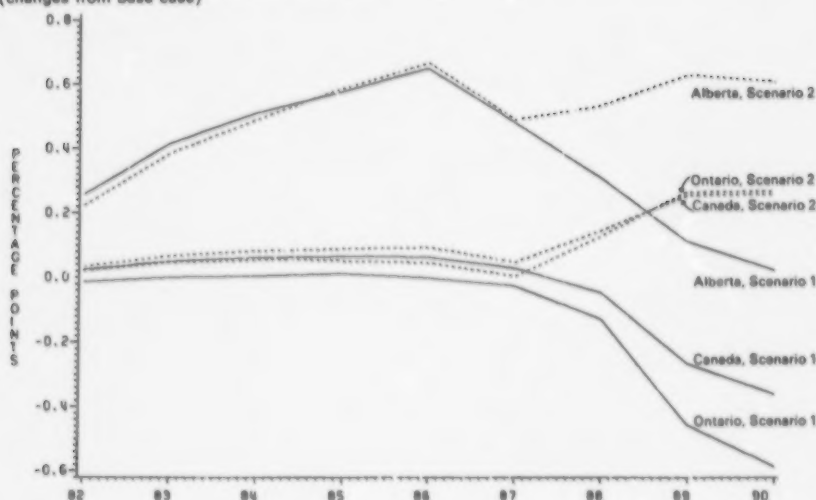
the results for Alberta's employment and unemployment are probably too high and the other provinces' too low. Nonetheless, even allowing for such adjustments, these effects are not large in Scenario 1. Scenario 5 brings considerably worse impacts to employment in provinces other than Alberta, especially to Ontario.

The small positive impacts of the cancellation on some of the Atlantic provinces and the territories are something of a puzzle. The loss of the project has little negative impact here; the positive stimuli come from increases in their tertiary-sector shares. What the PRISM equations are suggesting, in an imprecise way, is that the Alsands cancellation leads to somewhat less migration from the Atlantic provinces to the West, and hence to less than the base case's reduction in the service sectors in these provinces.¹⁶ Note, however, that in the severe Scenario 5, the results for all

¹⁶ Interprovincial migration is not currently endogenous in PRISM, and these

Appendix A

Figure A.5
Unemployment rates and the Alsands cancellation
(changes from base case)



provinces are negative, even in 1982. A more important point, however, is that during the construction phase, the effects of the Alsands cancellation on the Atlantic provinces are relatively small in all the scenarios.

Production phase (1988-90)

In the provincial cases, as in the national, exchange-rate assumptions dominate the outcomes for the production phase. If the exchange rate is permitted to fall in response to additional oil importing (Scenario 1), GDPs rise above base-case levels in all provinces except Alberta. The biggest increases are in Ontario, whose exporting and import-competing sectors benefit from the depreciation of the dollar; by 1989-90, the rise is about 1 per cent of GDP. Behind Ontario come Quebec, Manitoba, and B.C., in that

experiments assumed no response in migration. To some extent, however, the service-sector-share equations indirectly mimic migration effects.

order. By this time, Alberta's GDP recovers from the reduced level of the construction phase and benefits from the depreciation of the dollar. But, of course, Alberta now suffers a GDP loss in the reduced output of its mineral fuels sector. Moreover, the tertiary sectors, which take several years to adjust downwards in response to the construction cancellation, also take several years to adjust upwards when the Alberta economy begins to recover via the depreciation of the dollar.

The alternative to a depreciation of the dollar is monetary restriction (Scenario 2). It affects all types of expenditure but particularly investment, which is projected - even without Alsands - to be concentrated especially in Alberta. Late in the decade, the dual impact of reductions in mineral fuels and in investment pushes the Alberta economy even further below the base case than at any point in the construction phase (the extreme is a loss of 1.8 per cent in 1989). Since B.C. is also projected as an area of heavy investment late in the decade, high interest rates affect it more seriously than any province except Alberta. However, the differences among the provinces (except Alberta) are not large, especially in 1990 when indirect effects begin to accumulate.

CONCLUSION

Our experiments suggest that, considered in itself and in its construction phase, the cancellation of the Alsands project is not a disaster for the Canadian economy, although in the absence of alternative expenditures and in a period of slack, it is still a loss. For the construction phase the greatest danger may be posed by psychological aftershocks affecting confidence and expectations, but these are the kind of effects on which macromodels must be mute. Alternative scenarios demonstrate the importance of assumptions about what would have been the relative pricing, the exchange-rate flexibility, and the extent of foreign borrowing. The import content the project would have had seems less important - at least for the Canada-wide picture - because of possible offsetting movements in the exchange rate.

A greater danger to the Canadian economy threatens in the period after 1987 when Alsands oil fails to appear. As Scenarios 1 and 2 demonstrate, policy choices determine whether the loss of oil is translated into increased inflation and depreciation of the dollar, with a boost to real growth, or into loss of real output to maintain a fixed exchange rate. Of course, a mixed

Appendix A

policy could leave the result somewhere in the middle.

For the provinces, the results offer few surprises. During the construction phase, Alberta is hurt the worst - but the other provinces also suffer. For all the provinces, the effects, positive and negative, of the 'lost' oil in the later 1980s are of greater magnitude than the earlier effects of cancellation of the construction phase.

TABLE A.17

The Ontario economy and the Alameda cancellation: Scenario 1 (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Provincial gross domestic product	-0.10	-0.13	-0.16	-0.18	-0.15	-0.06	0.93	2.60	3.39
Real provincial GDP at factor cost	-0.07	-0.09	-0.10	-0.13	-0.12	-0.02	0.34	1.00	0.95
Deflator, provincial GDP at factor cost	-0.03	-0.04	-0.05	-0.04	-0.02	-0.03	0.61	1.69	2.56
Annual wages & salaries per employee	-0.04	-0.05	-0.08	-0.10	-0.10	-0.11	0.38	1.36	2.32
GDP at factor cost per employee	-0.09	-0.10	-0.11	-0.12	-0.14	-0.07	0.15	0.36	0.15
Labour force	0.01	0.01	0.01	0.01	0.02	0.02	0.05	0.15	0.18
Employment	0.02	0.00	0.01	-0.00	0.02	0.05	0.19	0.63	0.80
Unemployment rate (%) ^a	-0.01	0.00	0.00	0.01	-0.00	-0.03	-0.13	-0.46	-0.59
Real domestic product - manufacturing	-0.17	-0.21	-0.25	-0.28	-0.28	-0.10	0.58	2.04	2.01
RDP - goods-producing industries	-0.12	-0.15	-0.17	-0.18	-0.16	-0.02	0.49	1.62	1.60
RDP - service industries	-0.05	-0.08	-0.09	-0.12	-0.12	-0.04	0.31	0.79	0.73

NOTE: See note to Table A.2.

TABLE A.18

The Ontario economy and the Alameda cancellation: Scenario 2 (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Provincial gross domestic product	-0.14	-0.21	-0.26	-0.28	-0.31	-0.16	-0.69	-0.94	-0.71
Real provincial GDP at factor cost	-0.13	-0.17	-0.19	-0.20	-0.21	-0.06	-0.50	-0.78	-0.58
Deflator, provincial GDP at factor cost	-0.02	-0.04	-0.07	-0.09	-0.10	-0.09	-0.25	-0.25	-0.18
Annual wages & salaries per employee	-0.01	-0.05	-0.09	-0.13	-0.17	-0.18	-0.31	-0.44	-0.38
GDP at factor cost per employee	-0.10	-0.12	-0.13	-0.14	-0.17	-0.07	-0.35	-0.45	-0.25
Labour force	-0.00	-0.01	-0.01	-0.00	0.00	0.01	-0.02	-0.05	-0.05
Employment	-0.03	-0.06	-0.07	-0.06	0.01	0.01	-0.15	-0.33	-0.33
Unemployment rate (%) ^a	0.02	0.05	0.06	0.05	0.04	0.00	0.13	0.27	0.27
Real domestic product - manufacturing	-0.22	-0.31	-0.35	-0.38	-0.41	-0.17	-0.66	-1.00	-0.70
RDP - goods-producing industries	-0.18	-0.24	-0.26	-0.27	-0.28	-0.08	-0.69	-1.12	-0.83
RDP - service industries	-0.12	-0.16	-0.18	-0.19	-0.21	-0.08	-0.67	-0.69	-0.53

^a See note to Table A.2.

TABLE A.19

The Ontario economy and the Alasanda cancellation: Scenario 5 (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Provincial gross domestic product	-0.22	-0.51	-0.71	-0.76	-0.78	-0.53	0.75	2.52	3.42
Real provincial GDP at factor cost	-0.14	-0.29	-0.35	-0.32	-0.28	-0.09	0.44	1.11	1.03
Deflator, provincial GDP at factor cost	-8.09	-0.24	-0.39	-0.48	-0.54	-0.47	0.31	1.49	2.51
Annual wages & salaries per employee	-6.09	-0.21	-0.36	-0.48	-0.55	-0.52	0.88	1.19	2.28
GDP at factor cost per employee	-0.13	-0.19	-0.19	-0.17	-0.18	-0.07	0.20	0.37	0.14
Labour force	-0.00	-0.02	-0.03	-0.02	-0.01	0.00	0.06	0.17	0.19
Employment	-0.01	-0.10	-0.16	-0.15	-0.09	-0.02	0.24	0.73	0.88
Unemployment rate (%) ^a	0.01	0.08	0.12	0.12	0.08	0.02	-0.17	-0.54	-0.66
Real domestic product - manufacturing	-0.28	-0.57	-0.71	-0.64	-0.57	-0.26	0.78	2.24	2.12
RDP - goods-producing industries	-0.22	-0.45	-0.56	-0.48	-0.40	-0.13	0.68	1.82	1.73
RDP - service industries	-0.12	-0.24	-0.28	-0.28	-0.26	-0.09	0.37	0.87	0.80

^a See note to Table A.2.

TABLE A.20

The Alberta economy and the Alasanda cancellation: Scenario 1 (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Provincial gross domestic product	-0.34	-0.53	-0.64	-0.75	-0.84	-0.58	-1.26	-1.60	-0.95
Real provincial GDP at factor cost	-0.51	-0.78	-0.94	-1.06	-1.18	-0.33	-0.54	-0.21	-0.23
Deflator, provincial GDP at factor cost	0.17	0.26	0.30	0.32	0.35	0.26	-0.71	-1.33	-0.65
Annual wages & salaries per employee	0.01	0.01	-0.00	-0.03	-0.03	-0.00	0.18	0.80	1.76
GDP at factor cost per employee	-0.01	0.03	0.06	0.08	0.11	0.13	0.08	0.04	-0.14
Labour force	-0.23	-0.38	-0.47	-0.54	-0.61	-0.46	-0.30	-0.14	-0.06
Employment	-0.50	-0.81	-1.00	-1.14	-1.28	-0.96	-0.62	-0.25	-0.09
Unemployment rate (%) ^a	0.26	0.42	0.51	0.58	0.65	0.48	0.31	0.11	0.02
Real domestic product - manufacturing	-0.39	-0.55	-0.65	-0.73	-0.78	-0.45	0.27	1.48	1.49
RDP - goods-producing industries	-0.90	-1.37	-1.60	-1.81	-1.96	-1.22	-0.90	-0.62	-0.58
RDP - service industries	-0.23	-0.35	-0.45	-0.51	-0.59	-0.51	-0.17	0.29	0.22

^a See note to Table A.2.

TABLE A.21

The Alberta economy and the Alameda cancellation: Scenario 2 (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Provincial gross domestic product	-0.36	-0.56	-0.70	-0.85	-0.97	-0.69	-2.40	-3.95	-3.72
Real provincial GDP at factor cost	-0.49	-0.77	-0.94	-1.10	-1.24	-0.85	-1.37	-1.80	-1.57
Deflator, provincial GDP at factor cost	0.12	0.20	0.24	0.25	0.27	-0.17	-1.00	-2.23	-2.20
Annual wages & salaries per employee	-0.05	-0.08	-0.11	-0.15	-0.18	-0.16	-0.50	-0.87	-0.81
GDP at factor cost per employee	-0.04	-0.01	0.02	0.05	0.08	0.13	-0.33	-0.59	-0.40
Labour force	-0.21	-0.36	-0.46	-0.55	-0.62	-0.47	-0.49	-0.56	-0.55
Employment	-0.44	-0.76	-0.96	-1.16	-1.31	-0.97	-1.04	-1.21	-1.18
Unemployment rate (%) ^a	0.22	0.38	0.49	0.59	0.67	0.49	0.53	0.63	0.61
Real domestic product - manufacturing	-0.43	-0.63	-0.73	-0.82	-0.89	-0.51	-0.80	-1.02	-0.76
RDP - goods-producing industries	-0.94	-1.43	-1.66	-1.88	-2.05	-1.26	-2.00	-2.71	-2.38
RDP - service industries	-0.17	-0.30	-0.41	-0.54	-0.64	-0.53	-0.94	-1.18	-1.01

^a See note to Table A.2.

TABLE A.22

The Alberta economy and the Alameda cancellation: Scenario 5 (percentage changes from base case)

	1982	1983	1984	1985	1986	1987	1988	1989	1990
Provincial gross domestic product	-0.40	-0.73	-0.95	-1.09	-1.21	-0.86	-1.37	-1.63	-0.90
Real provincial GDP at factor cost	-0.57	-0.92	-1.10	-1.18	-1.26	-0.83	-0.82	-0.07	-0.11
Deflator, provincial GDP at factor cost	0.15	0.18	0.14	0.07	0.04	-0.04	-0.95	-1.50	-0.72
Annual wages & salaries per employee	-0.03	-0.13	-0.25	-0.39	-0.47	-0.41	-0.13	0.62	1.72
GDP at factor cost per employee	-0.05	-0.05	-0.00	0.04	0.06	0.12	0.11	0.03	-0.17
Labour force	-0.24	-0.41	-0.52	-0.58	-0.63	-0.46	-0.26	-0.07	0.00
Employment	-0.51	-0.88	-1.10	-1.21	-1.32	-0.95	-0.52	-0.10	0.05
Unemployment rate (%) ^a	0.27	0.45	0.56	0.62	0.67	0.48	0.26	0.03	-0.05
Real domestic product - manufacturing	-0.48	-0.84	-1.02	-1.02	-1.02	-0.58	0.43	1.65	1.59
RDP - goods-producing industries	-0.96	-1.53	-1.80	-1.95	-2.06	-1.71	-0.73	-0.43	-0.41
RDP - service industries	-0.29	-0.51	-0.63	-0.64	-0.69	-0.53	-0.07	0.39	0.32

^a See note to Table A.2.

Bibliography

- Auld, D.A.L., and D.A. Wilton (1980) 'The Impact of Progressive Income Taxes on Base Wage Rates in Canada' (Guelph: University of Guelph) mimeo
- Bank of Canada (1981) Annual Report of the Governor (Ottawa)
- Bank of Montreal (1981) 'Canadian Corporate Takeovers: Some Economic Impacts' (Montreal: Bank of Montreal) mimeo
- Blinder, A.S. and R.M. Solow (1974) 'Analytical Foundations of Fiscal Policy', in The Economics of Public Finance (Washington: The Brookings Institution)
- Bossons, J. (1981) 'Economic Effects of the Capital Gains Tax', study prepared for the Canadian Securities Industry Tax Committee
- Bossons, J., and G. Jump (1981) 'The Effects of Indexing Capital Cost Allowances', study prepared for the Canadian Securities Industry Tax Committee
- Bouey, G. (1981a) Speech to Men's and Women's Canadian Clubs of Calgary, September 23
- (1981b) Speech to Montreal Chamber of Commerce, December 1
- Canada (1981), Ministry of Energy, Mines and Resources, 'Memorandum of Agreement between the Government of Canada and the Government of Alberta, relating to Energy Pricing and Taxation' (Ottawa)
- Carmichael, E.A. (1979) 'Reassessing Canada's Potential Economic Growth' (Ottawa: The Conference Board of Canada)
- Conference Board of Canada, The (1981a) Quarterly Canadian Forecast 8, nos. 3 and 4 (Ottawa)

- (1981b) Quarterly Provincial Forecast 6, nos. 3 and 4 (Ottawa)
- Courchens, T.J. (1976) Monetarism and Controls: The Inflation Fighters (Montreal: C.D. Howe Research Institute)
- (1977) The Strategy of Gradualism An Analysis of Bank of Canada Policy from Mid-1975 to Mid-1977 (Montreal: C.D. Howe Research Institute)
- (1981) 'Money, Inflation and the Bank of Canada 2 An Analysis of Monetary Gradualism, 1975-80 (Montreal: C.D. Howe Research Institute)
- Denny, M., and M. Fuss (1983) Productivity: A Selective Survey of Recent Developments and the Canadian Experience (Toronto: Ontario Economic Council)
- Dungan, D.P. (1981a) 'Modelling the Canadian Economy', Economic Policy Review 3, no. 2 (Toronto: Policy and Economic Analysis Program, Institute for Policy Analysis, University of Toronto)
- (1981b) ' "Consistent" or "Rational" Expectations in a Macro-Econometric Model of Canada' (Toronto: Institute for Policy Analysis, University of Toronto) mimeo
- Dungan, P., and T.A. Wilson (1982) Potential GNP: Performance and Prospects Report Series (Toronto: Institute for Policy Analysis, University of Toronto)
- Fisher, P. (1981) 'Investment Tax Credits, Capital Gains Taxation and Reindustrialization of the U.S. Economy', Journal of Economic Issues 15, no. 3 (September)
- Foot, D.K. (1982) Canada's Population Outlook (Toronto: Canadian Institute for Economic Policy)
- Foot, D.K., J. Pesando, J. Sawyer, and J. Winder (1977) The Ontario Economy, 1977-1987 (Toronto: Ontario Economic Council)
- Haverman, R., and J. Palmer (1982), eds. Jobs for Disadvantaged Workers: The Economics of Employment Subsidies (Washington: The Brookings Institute)
- Institute for Policy Analysis (forthcoming) Barriers to Interprovincial Trade, conference paper (Toronto: Institute for Policy Analysis, University of Toronto)
- (1982) FOCUS: Forecasting and User Simulation Model Manual and Equation Description Version 1981E (University of Toronto: Institute for Policy Analysis, Toronto)

Bibliography

- Johnson, H.G. (1962) Canada in a Changing World Economy (Toronto: University of Toronto Press)
- Jump, G.V. (1980) 'Inflation-Related Spurious Elements in Measured Savings of Various Sectors of the Economy: The Canadian Experience 1962-77' (Ottawa: Economic Council of Canada)
- Lipsey, Richard G. (1981) 'The Understanding and Control of Inflation: Is There a Crisis in Macro-Economics?' Canadian Journal of Economics 14, no. 4: 545-76 (November)
- Milne, W. (1981) 'An Overview of Regional Econometric Modelling' Economic Policy Review 3, no. 2 (Toronto)
- Powell, A.A. (1980) 'The Major Streams of Economy-Wide Modelling: Is Rapprochement Possible' (Melbourne: University of Melbourne) mimeo
- Sawyer, J., P. Dungan, and G.V. Jump (1980) 'The Transmission of World Economic Expansion to an Open Economy: Some Experiments for Canada' (Toronto: Institute for Policy Analysis, University of Toronto) mimeo
- Sawyer, J., P. Dungan, and J. Winder (1978) The Ontario Economy 1978-87 (Toronto: Ontario Economic Council)
- Scerfe, B.L., and B.W. Wilkinson (1981) 'The New Energy Agreement: An Economic Perspective', paper prepared for Outlook and Issues Conference, Ontario Economic Council, mimeo
- Thadaney, P., and J. Osten (1981) Energy Module (Toronto: Data Resources of Canada)
- Turnovsky, S. (1977) Macroeconomic Analysis and Stabilization Policy (Cambridge: University Press)

List of tables

Chapter 1: Introduction, Objectives, and Methods

- 1.1 Models package at the University of Toronto 12

Chapter 2: The national projection

- 2.1 The U.S. economy 17
- 2.2 Assumptions about energy: summary 19
- 2.3 Assumptions about national demographics and productivity: summary 24
- 2.4 Assumptions about government expenditures and transfers 28
- 2.5 The national economy: summary 30
- 2.6 National performance: Canada and the United States 30
- 2.7 Potential GNP: past and projected growth rates 35
- 2.8 Major components of Real GNP: summary 39
- 2.9 Shares of GNP by expenditure category 39
- 2.10 Inflation, unemployment, productivity, and real incomes 42
- 2.11 Financial variables: summary 46
- 2.12 Sources of savings (percentage shares of gross domestic capital formation): summary 51
- 2.13 Government balances: summary 53
- 2.14 The balance of payments and the exchange rate: summary 57
- 2.15 Canada's output (real domestic product) by industrial aggregate 61
- 2.16 Canada's employment by industrial aggregate 61
- 2.17 Canada's output by industry 62
- 2.18 Canada's employment by industry 63
- 2.19 Energy: production, demand, and price 70

- 2.20 Energy: trade, revenues, and subsidies 72
- 2.21 Energy: balance of payments and refiners' acquisition price 74
- 2.22 The national economy: summary by year 76
- 2.23 Major components of GNP 80
- 2.24 Implicit price index of major components of GNP (1971=1.0) 82
- 2.25 The labour market 84
- 2.26 National and personal income 86
- 2.27 Financial variables 88
- 2.28 Sources and disposition of savings 90
- 2.29 Combined-public-sector surplus or deficit 92
- 2.30 Federal government's revenues and expenditures 94
- 2.31 Provincial governments' revenues and expenditures 96
- 2.32 The balance of international payments and the exchange rate 98
- 2.33 Canada's real domestic product by industry 100
- 2.34 Canada's employment by industry 104

Chapter 3: The Ontario projection

- 3.1 Growth rate of source population and labour force by province/
region 110
- 3.2 Labour productivity by province/region (percentage deviation from
national average) 114
- 3.3 Ontario's output shares by industry: summary 118
- 3.4 The Ontario economy: summary 125
- 3.5 Real growth rate by province/region (real GDP at factor cost) 126
- 3.6 Shares of real and nominal output by province/region 126
- 3.7 Output and population: Ontario and Alberta 131
- 3.8 The unemployment rate by province/region 135
- 3.9 Real personal disposable income per capita: ratio of provincial/regional
to national 138
- 3.10 Ontario's real output by industry: summary 141
- 3.11 Ontario's employment by industry: summary 145
- 3.12 Ontario's output shares by industry 148
- 3.13 The Ontario economy: summary by year 150
- 3.14 Ontario's economy: ratio to Canada's 152
- 3.15 Real output and output deflators by province 154
- 3.16 Ontario's labour force and employment variables 158
- 3.17 Labour force and employment variables by province 160

- 3.18 Ontario's personal income 166
- 3.19 Ontario's real domestic product by industry 170
- 3.20 Ontario's employment by industry 174

Chapter 4: Altering some key assumptions

- 4.1 Effect on Canada and Ontario of increased government expenditures (yearly averages - changes from base case) 181
- 4.2 Effect on Canada and Ontario of increased personal income taxes (yearly averages - changes from base case) 183
- 4.3 Effect on Canada and Ontario of doubling investment tax credits (yearly averages - changes from base case) 185
- 4.4 Effect on Canada and Ontario of a wage subsidy policy (yearly averages - changes from base case) 186
- 4.5 Effect on Canada and Ontario of one-time capital outflow (yearly averages - changes from base case) 188
- 4.6 Effect on Canada and Ontario of an increase in the money supply (yearly averages - changes from base case) 191
- 4.7 Effect on Canada and Ontario of a rise in U.S. interest rates, assuming a flexible exchange rate (yearly averages - changes from base case) 193
- 4.8 Effect on Canada and Ontario of a rise in U.S. interest rates, assuming fixed exchange rates (yearly averages - changes from base case) 194
- 4.9 Effect on Canada and Ontario of a rise in U.S. interest rates, assuming a managed exchange rate (yearly averages - changes from base case) 196
- 4.10 National effects of increased government expenditures (percentage changes from base case) 201
- 4.11 Effects on Ontario of increased government expenditures (percentage changes from base case) 202
- 4.12 Effects of increased government expenditures on Ontario's real domestic product by industry (percentage changes from base case) 203
- 4.13 National effects of an increase in personal income taxes (percentage changes from base case) 204
- 4.14 Effects on Ontario of an increase in personal income taxes (percentage changes from base case) 205

- 4.15 Effects of an increase in personal income taxes on Ontario's real domestic product by industry (percentage changes from base case) 206
- 4.16 National effects of doubling investment tax credits (percentage changes from base case) 207
- 4.17 Effects on Ontario of doubling investment tax credits (percentage changes from base case) 208
- 4.18 Effects of doubling investment tax credits on Ontario's real domestic product by industry (percentage changes from base case) 209
- 4.19 National effects of a wage subsidy policy (percentage changes from base case) 210
- 4.20 Effects on Ontario of a wage subsidy policy (percentage changes from base case) 211
- 4.21 Effects of a wage subsidy policy on Ontario's domestic product by industry (percentage changes from base case) 212
- 4.22 National effects of increased money supply growth rates (percentage changes from base case) 213
- 4.23 Effects on Ontario of increased money supply growth rates (percentage changes from base case) 214
- 4.24 Effects of increased money supply growth rates on Ontario's real domestic product by industry (percentage changes from base case) 215
- 4.25 National effects of a one-time capital outflow (percentage changes from base case) 216
- 4.26 Effects on Ontario of a one-time capital outflow (percentage changes from base case) 217
- 4.27 Effects of a one-time capital outflow on Ontario's real domestic product by industry (percentage changes from base case) 218
- 4.28 National effects of a rise in U.S. interest rates, assuming a flexible exchange rate (percentage changes from base case) 219
- 4.29 Effects on Ontario of a rise in U.S. interest rates, assuming a flexible exchange rate (percentage changes from base case) 220
- 4.30 Effects of a rise in U.S. interest rates on Ontario's real domestic product by industry, assuming a flexible exchange rate (percentage changes from base case) 221
- 4.31 National effects of a rise in U.S. interest rates, assuming a fixed exchange rate (percentage changes from base case) 222
- 4.32 Effects on Ontario of a rise in U.S. interest rates, assuming a fixed exchange rate (percentage changes from base case) 223

- 4.33 Effects of a rise in U.S. interest rates on Ontario's real domestic product by industry, assuming a fixed exchange rate (percentage changes from base case) 224
- 4.34 National effects of a rise in U.S. interest rates, assuming a managed exchange rate (percentage changes from base case) 225
- 4.35 Effects on Ontario of a rise in U.S. interest rates, assuming a managed exchange rate (percentage changes from base case) 226
- 4.36 Effects of a rise in U.S. interest rates on Ontario's real domestic product by industry, assuming a managed exchange rate (percentage changes from base case) 227

Chapter 5: The impact of the September 1981 Energy Accord

- 5.1 Unanticipated elements of the Energy Accord: summary 229
- 5.2 National effects of unanticipated elements of Accord: summary 232
- 5.3 Effects on Ontario economy of unanticipated elements of Accord: summary 232
- 5.4 Effects of the Energy Accord on energy variables (percentage changes from pre-Accord projection, unless otherwise indicated) 233
- 5.5 National effects of the Energy Accord (percentage changes from pre-Accord projection) 236
- 5.6 Effects on Ontario of the Energy Accord (percentage changes from pre-Accord projection) 237
- 5.7 Effects of the Energy Accord on real outputs and deflators by province (percentage changes from pre-Accord projection) 238
- 5.8 Effects of the Energy Accord on Ontario's real outputs by industry (percentage changes from pre-Accord projection) 239
- 5.9 Effects of the Energy Accord on Ontario's employment by industry (percentage changes from pre-Accord projections) 240

Appendix A

- A.1 Assumed profile of investment in and output from Alsands 243
- A.2 The national economy and the Alsands cancellation: Scenario 1 (percentage changes from base case) 248
- A.3 The national economy and the Alsands cancellation: Scenario 2 (percentage changes from base case) 249
- A.4 The national economy and the Alsands cancellation: Scenario 3 (percentage changes from base case) 250

- A.5 The national economy and the Alsands cancellation: Scenario 4
(percentage changes from base case) 251
- A.6 The national economy and the Alsands cancellation: Scenario 5
(percentage changes from base case) 252
- A.7 Real GNP 'multipliers' for the cancellation of Alsands 253
- A.8 Components of real GNP and the Alsands cancellation: Scenario 1
(changes from base case in millions of 1971 dollars) 254
- A.9 Investment and the cancellation of Alsands: Scenario 1 (changes
from base case) 257
- A.10 Real GDPs and the Alsands cancellation: Scenario 1 (percentage
changes from base case) 263
- A.11 Real GDPs and the Alsands cancellation: Scenario 2 (percentage
changes from base case) 263
- A.12 Real GDPs and the Alsands cancellation: Scenario 5 (percentage
changes from base case) 264
- A.13 Employment and unemployment rates with the Alsands cancellation:
Scenario 1 265
- A.14 Employment and unemployment rates with the Alsands cancellation:
Scenario 2 266
- A.15 Employment and unemployment rates with the Alsands cancellation:
Scenario 5 267
- A.16 The early effects of the Alsands cancellation on provinces' real
GDPs: a comparison of Scenarios 1 and 4 (percentage changes
from base case) 268
- A.17 The Ontario economy and the Alsands cancellation: Scenario 1
(percentage changes from base case) 273
- A.18 The Ontario economy and the Alsands cancellation: Scenario 2
(percentage changes from base case) 273
- A.19 The Ontario economy and the Alsands cancellation: Scenario 5
(percentage changes from base case) 274
- A.20 The Alberta economy and the Alsands cancellation: Scenario 1
(percentage changes from base case) 274
- A.21 The Alberta economy and the Alsands cancellation: Scenario 2
(percentage changes from base case) 275
- A.22 The Alberta economy and the Alsands cancellation: Scenario 5
(percentage changes from base case) 275

List of figures

Chapter 2: The national projection

- 2.1 The national economy: summary 31
- 2.2 Unemployment rates 32
- 2.3 Interest rates 33
- 2.4 Sources of potential growth (growth rates of capital and labour at full employment) 37
- 2.5 Shares of expenditure components 40
- 2.6 Growth of productivity and real incomes 44
- 2.7 The money supply and GNP: growth rates 47
- 2.8 Velocity of money supply 48
- 2.9 Real interest rates and rates of returns 49
- 2.10 Components of savings 52
- 2.11 Government balances 54
- 2.12 Government balances as percentages of GNP 55
- 2.13 The exchange rate and the terms of trade 58
- 2.14 Trade and capital-flow balances as percentages of GNP 59
- 2.15 Output growth by industrial aggregate: Canada 64
- 2.16 Employment growth by industrial aggregate: Canada 65
- 2.17 Labour productivity: mineral fuels, manufacturing, and mining (ratio to average of all industries) 67
- 2.18 Labour productivity: construction, manufacturing, and goods-producing industries (ratio to average of all industries) 68

Chapter 3: The Ontario projection

- 3.1 Growth rates of labour-force source population by province/region 111

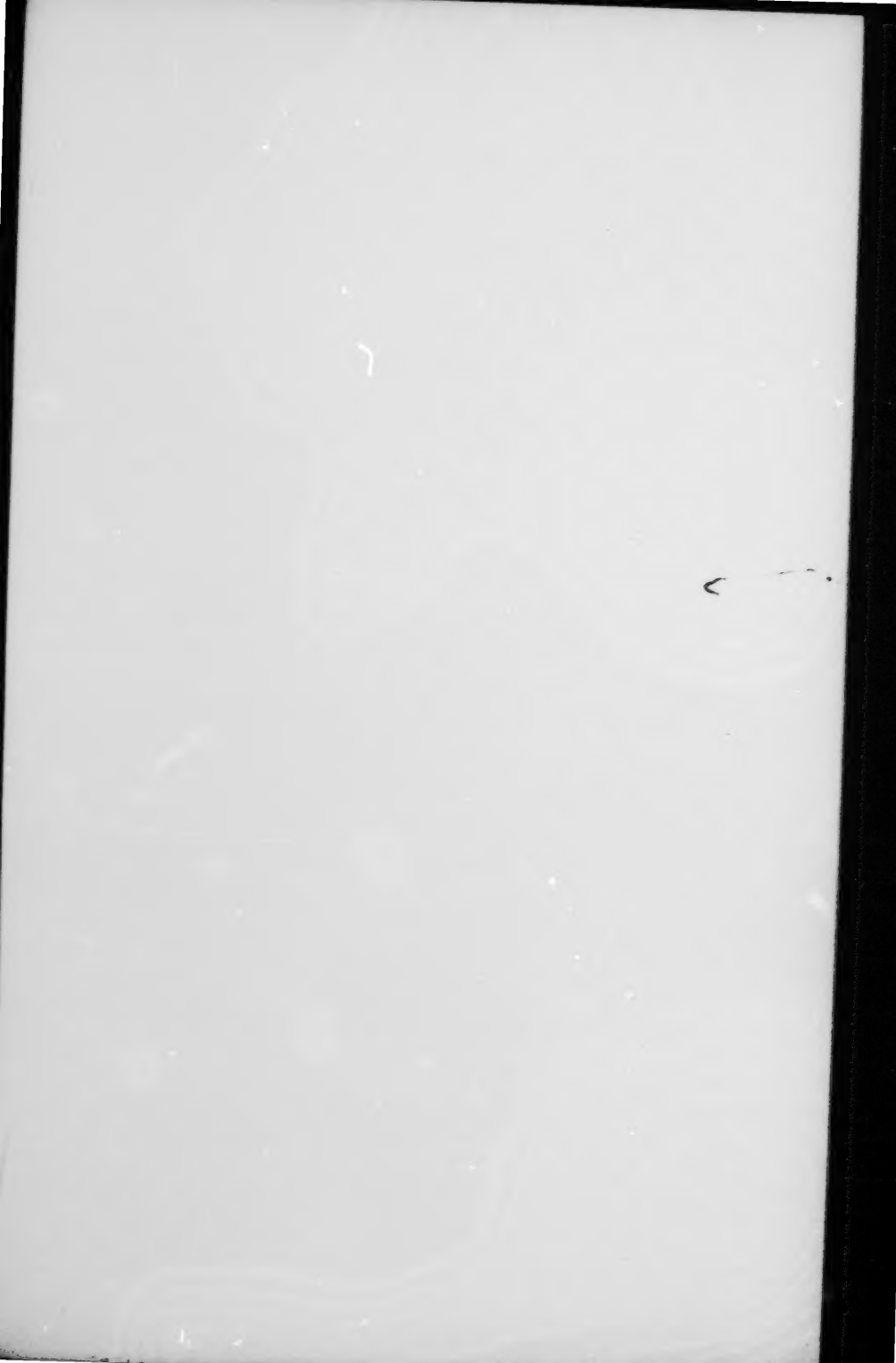
- 3.2 Growth rates of labour force by province/region 112
- 3.3 Labour productivity by province/region (percentage deviation from national average) 115
- 3.4 Labour productivity in manufacturing by province/region (percentage deviation from national average) 116
- 3.5 Ontario's shares of primary industries 119
- 3.6 Ontario's shares of manufacturing industries 120
- 3.7 Ontario's shares of construction and utilities 120b
- 3.8 Ontario's shares of selected services 121
- 3.9 Ontario's shares of industrial aggregates 122
- 3.10 The Ontario economy: summary 125
- 3.11 Real growth rates by region 127
- 3.12 Real growth rate by province 128
- 3.13 Shares of real output by province/region 129
- 3.14 Shares of nominal output by province/region 133
- 3.15 Shares of nominal and real output, Ontario and Alberta 134
- 3.16 The unemployment rate by province/region 136
- 3.17 Real personal income: ratio of provincial/regional to national 139
- 3.18 Ontario's productivity and real income: ratios to Canada's 140
- 3.19 Ontario's shares of output by industrial aggregate 143
- 3.20 Ontario's employment by industrial aggregate 144

Chapter 4: Altering some key assumptions

- 4.1 Effect of a rise in U.S. interest rates on individual bond yields 197
- 4.2 Effect of a rise in U.S. interest rates on GNP price deflator 198
- 4.3 Effect of a rise in U.S. interest rates on real GNP 199

Appendix A

- A.1 Real GNP and the Alsands cancellation (percentage changes from base case) 261
- A.2 Bond rates and the Alsands cancellation (changes from base case) 261
- A.3 Real economic activity and the Alsands cancellation (percentage changes from base case) 262
- A.4 Real growth and the Alsands cancellation (percentage changes from base case) 269
- A.5 Unemployment rates and the Alsands cancellation (changes from base case) 270



Ontario Economic Council Policy Studies

Universal or Selective? the debate on reforming income security in Canada
Michael Mendelson

Rent Control and Options for Decontrol in Ontario
Richard Arnott/Nigel Johnston

The Ontario Economy 1982-1995
Peter Dungan and Douglas Crocker and Gay M. Garesché

Copies of this publication are available at a nominal charge from the Ontario Government Bookstore, 880 Bay Street, Toronto, for personal shopping. Out-of-town customers should write to Publications Services Section, 5th Floor, 880 Bay Street, Toronto, Ontario, M7A 1N8. Telephone 965-6015. Toll-free long distance 1-800-268-7540; in North Western Ontario 0-Zenith 6-7200.

Volume

2

The Ontario Economy 1982-1995

**Policy
Study
Series**

**Ontario
Economic
Council**

**Peter Dungan
Douglas Crocker
Gay M. Garesché**

Volume 2

© Ontario Economic Council 1983
81 Wellesley Street East
Toronto, Ontario
M4Y 1H6

Printed in Canada

ISBN Complete 2 volume set: 7586-8
ISBN Volume II: 8096-9

ISSN 0227-0005

Peter Dungan is an assistant professor of economics at the Institute for Policy Analysis, University of Toronto, where he is also the models manager of the Policy and Economic Analysis Program.

Douglas Crocker is a research officer at the Ontario Economic Council.

Gay M. Garesché is an economist at the University of Toronto.

This report reflects the views of the authors and not necessarily those of the Ontario Economic Council or the Government of Ontario. The Council establishes policy questions to be investigated and commissions research projects, but it does not influence the conclusions or recommendations of authors. The decision to sponsor publication of this study was based on its competence and relevance to public policy.

Contents

Volume 2

Introduction 1

2

The national outlook - FOCUS 3

3

National industrial detail - PRISM 13

4

Provincial projection - PRISM 17

5

Provincial projection: overview of results 35

6

Results by province 46

7

Appendix - tables 60

List of Tables 157

List of Figures 159



1

Introduction

Since 1976 the Institute for Policy Analysis, through the Policy and Economic Analysis Program, has become increasingly involved in modelling the provincial economies and in regional policy analysis. In early 1981 PEAP introduced PRISM (the Provincial Industrial Satellite Model) which, in tandem with the FOCUS national macroeconometric model, is intended for use in regional policy analysis and longer-term projection.

PRISM has now been used to generate several projections for the provinces - most notably for the policy study commissioned by the Ontario Economic Council (OEC). Although the OEC study focuses on Ontario results, it does provide a viable scenario for Canada and the provinces through 1990. While events have overtaken even this recent projection,* it does offer one possible, albeit relatively optimistic, outlook for the Canadian economic environment.

This Policy Study presents the results of a more recent PRISM projection initially discussed at the PEAP Conference on the Regional Economies held 10 September 1982. It is intended to provide an up-to-date outlook for the national and provincial economies incorporating current data and the present policy environment.

For this outlook FOCUS was tuned initially to the Data Resources (DRI) low-trend long-term solution of February 1982, which was based on the confluence of relatively pessimistic inflation, growth and policy assumptions and trends. While the FOCUS results evolved somewhat differently than the DRI

* This study was concluded in the spring of 1982, but has been somewhat delayed in publication.

results, the inclusion of the poor economic developments established by the second quarter national accounts and the August Labour Force Survey added to the pessimism of this scenario. In addition, this outlook includes a number of somewhat gloomy assumptions intended to produce a 'low-trend' case. These assumptions will be noted throughout the text.

What follows is a brief description of the September outlook's national assumptions and results to 1995. This is followed by a more complete exposition of the long-term industry and provincial assumptions and results. Detailed tables of the results are provided in the appendix.

ASSUMPTIONS

International Environment: Most important in the international environment are developments in the U.S. (see Table 1). While the point of departure for the FOCUS outlook was the long-term low-trend spring DRI forecast for the U.S., selective adjustments in subsequent FOCUS runs have caused it to diverge somewhat from the DRI assumptions. The principal features of the U.S. outlook which emerge are as follows:

- . The U.S. economy experiences sluggish growth in total real output in the next two years followed by a slow recovery. Growth remains well below potential through 1983 and at or only slightly above potential throughout the recovery period.
- . The U.S. fails to improve markedly upon the inflation experience of the 1970s and early 1980s. This is a key pessimistic assumption of this scenario.
- . The Federal Reserve reinstates relatively severe monetary restraint during the winter of 1983 to avoid backpedalling on inflation, undercutting real growth.

Other assumptions concerning the external environment are:

- . Canada's other major trade partners suffer similar economic malaise.
- . The Canadian dollar remains stable at about 81¢ U.S. as a good balance

The Ontario Economy 1982 - 1995

TABLE 1
National outlook assumptions

	1962 -73	1974 -80	1981 -85	1986 -90	1991 -95
U.S. real GNE average annual growth	4.4	2.6	1.8	3.0	1.9
U.S. GNP deflator average annual growth	3.7	7.7	8.2	10.2	9.7
Population average annual growth	1.6	1.2	.9	.8	.6
Population 15+ average annual growth	2.4	2.1	1.4	1.0	.9

of trade performance in 1982, a stable gap between Canadian and U.S. interest rates in the next few years and a favourable energy balance in the late 1980s and early 1990s offset the effect of higher Canadian inflation and the pursuit of somewhat nationalistic economic policies.

No major international financial shock is assumed.

Energy: The energy sector continues to function as per the NEP and 1981 Pricing Accords. Table 2 lists major energy projects included in the scenario.

- Real oil prices increase 3 to 5 per cent per annum after 1985 vis-à-vis the U.S. GNP deflator. (Zero real increase in the near term.)
- Poor energy product demand reflects the slow economy and conservation efforts. Slow energy supply growth reflects substantial cutbacks in investment in the early years of the scenario. Energy self-sufficiency is achieved by 1995-96.

Population: Population growth (see Table 1) slows throughout the projection horizon due to reduced immigration and a lower natural increase.

- Government targets for immigration are lowered in reaction to high

TABLE 2
Provinces - major projects

		<u>On stream</u>
Newfoundland	Hibernia	87-88
Nova Scotia	Sable Island gas	84-86
Saskatchewan	Tertiary recovery and gas production	early and mid 90s
Alberta	One new SYNCRUDE-type tarsands plant	early 90s
	'New' conventional crude and gas development	all years
British Columbia	Gas and port development	84-86
	Additional gas development	early 90s
Territories	Beaufort oil production, preliminary	95

domestic unemployment rates.

- The combination of low fertility rates and fewer individuals entering the prime child-bearing years leads to lower natural population increases.
- Growth in the population 15 years and older also decelerates, though not as fast as total population growth.
- High unemployment in the 1980s cuts into the large increases in the participation rate seen in the 1970s. This is due to a sizeable 'discouraged worker' effect.

Government Policy: The policy environment is generally assumed to continue as it now exists. However, this is also an area in which some relatively pessimistic assumptions have been made. For example, it has been assumed that there will be little significant spillover of the federal 6 and 5 per cent wage restraint program to the private sector. Also:

- Continued public sector wage and spending restraint is assumed beyond 1983, though it is not expected to be very vigorous.
- Effective personal tax increases are assumed by means of a cap on indexation of the personal tax structure.

The Ontario Economy 1982 - 1995

- . UIC payments increase automatically to offset the large volume of payments made by the government to persons during the recession.
- . The federal government reduces some income transfers to the provinces in an effort to reduce its deficit. On balance, however, the provinces remain less in deficit than the federal government.
- . Monetary policy remains tight - but not so tight as to stifle a modest recovery despite assumed ongoing inflation.

On a brighter note:

- . It is assumed that corporate tax receipts rise as corporate profits recover from extremely low recent levels.

The upshot of these public sector assumptions is that the federal government, in particular, manages to reduce its annual deficit markedly over the next decade and one half. Provincial governments also improve their financial position.

Inflation: Inflation continues virtually unabated at almost 9 per cent right through the early 1990s in this outlook. While inflation is obviously not an exogenous variable, it is influenced by many factors which are external to FOCUS. For example:

- . Energy prices are assumed to escalate in real terms after 1985.
- . Canadian wage determination is partially a reflection of social mores. There is only limited latitude for salary givebacks in this country like those which have occurred in U.S. heavy industry. Moreover, it is unclear, to some U.S. observers at least, that the much-touted U.S. 'givebacks' and wage reductions represent a fundamental change in U.S. labour practices. Instead, they argue that present wage and price conditions represent merely a typical reaction to a severe recession. (For example, see Daniel J.E. Mitchell, 'Recent Union Contract Concessions', Brookings Papers on Economics Activity (1/1982), pp. 165-201 and John T. Dunlop, 'Working Toward Consensus', Challenge July/August 1982, pp. 26-34. For an opposing view see Audrey Freeman, 'A

Fundamental Change in Wage Bargaining', Challenge July/August 1982, pp. 14-17.)

The large volume of Canadian output and consumption which is traded abroad makes this country particularly vulnerable to foreign inflation, which is assumed to be high in the U.S. and world economies in this scenario.

The large number of non-market determined prices in Canada takes some inflation outside the realm of purely market solutions.

It has also been assumed that present partly-voluntary, partly-mandatory restraints will have relatively little impact on wages and prices in the long run. (This assumption looks increasingly unlikely for the short run.)

An attempt has been made in this scenario to represent a number of the exogenous inflation-producing influences mentioned above. The result is high inflation which persists throughout the projection period despite the inflation fighting efforts of the government.

Several important results follow from these inflation assumptions, specifically, weak real growth, poor productivity performance and high unemployment. However, the intractable inflation problem is assumed to eventually force the government to change policy focus slightly from inflation to jobs. Only after this policy change does the recovery develop any momentum. The following provides more specific details of the results.

Results

Major results are summarized in Chart 1 and Tables 3 and 4. See also Appendix Tables 1-9.

- Real GNE recovers steadily though unspectacularly from the severe recession in 1982. Only in one year, 1985, is growth expected to exceed 5 per cent. The gap between actual and potential output opened during the recession is never closed in this scenario. Table 4 and Chart 2 provide a breakdown of GNE growth by demand category.

- Consumption recovers vigorously following two poor years, 1982 and 1983. Growth subsides in the 1990s in tandem with population growth.

The Ontario Economy 1982 - 1995

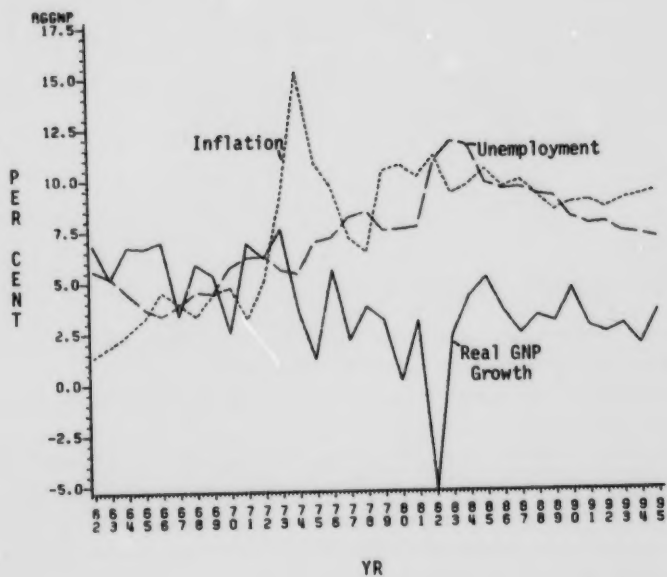
TABLE 3
National projection - summary
Revised low-trend (per cent)

	1962 -73	1974 -80	1981 -85	1986 -90	1991 -95
Real GNP growth	5.8	2.7	1.9	3.3	2.6
Inflation (GNP deflator)	3.9	10.0	10.1	9.1	8.9
90-day paper rate	5.8	10.0	16.6	14.5	13.1
Ind. bond rate	7.3	10.8	16.3	14.8	14.3
Unemployment rate	4.9	7.3	10.3	9.0	7.4
Exchange rate (US\$/Cdn.\$)	.95	.93	.81	.81	.81

- Government spending remains steadfastly under 2 per cent growth per annum to 1995 as governments are continually constrained by their deficits.
- Investment spending after recovering from the 82-83 recession is the major 'engine' of growth. While not at levels foreseen several years ago, there is considerable investment in resource extraction and in upgrading existing stock. Except for two strong years in 1984 and 1985, housing revives slowly from the pre-1971 levels of activity experienced in 1982 and 1983. Non-residential construction and machinery and equipment investment benefit from major energy development activity in the mid-1980s and again in the early 1990s.
- The balance of trade on goods and services improves dramatically in 1982. Thereafter, the balance erodes slowly as Canada's inflation outpaces that of the U.S. while the Canadian dollar is held up by some resurgence of capital inflows.
- Productivity growth remains sluggish by historical standards. While rising real energy prices are felt by some to have had an important role in initiating the poor productivity performance of the last few years, more stable real energy prices are not assumed to have the reciprocal effect of bolstering productivity performance in this scenario. High inflation (especially through its impact via the tax system) has been suggested as another source of poor

Chart 1

Canada: Main Indicators



The Ontario Economy 1982 - 1995

TABLE 4
Components of real GNP - growth rates

	1962 -73	1974 -80	1981 -85	1986 -90	1991 -95
GNP	5.8	2.7	1.9	3.3	2.6
Consumption	5.5	3.6	1.8	3.6	2.7
Autos	9.7	1.7	-2.7	9.1	3.2
Durables excl. autos	9.5	4.8	1.6	4.2	3.7
Investment	6.9	3.5	0.4	3.8	4.7
Residential	7.7	-2.3	3.3	1.1	0.9
Non-res. struct.	4.6	6.6	1.6	4.5	5.9
Mach. & equip.	9.1	4.8	-2.1	4.5	5.0
Government	5.2	1.6	1.2	1.4	1.8
Exports	9.0	3.1	2.3	4.0	3.6
Imports	8.5	3.7	1.6	3.9	4.4

productivity performance. From this viewpoint, the persistence of inflation in this scenario is consistent with continued poor productivity.

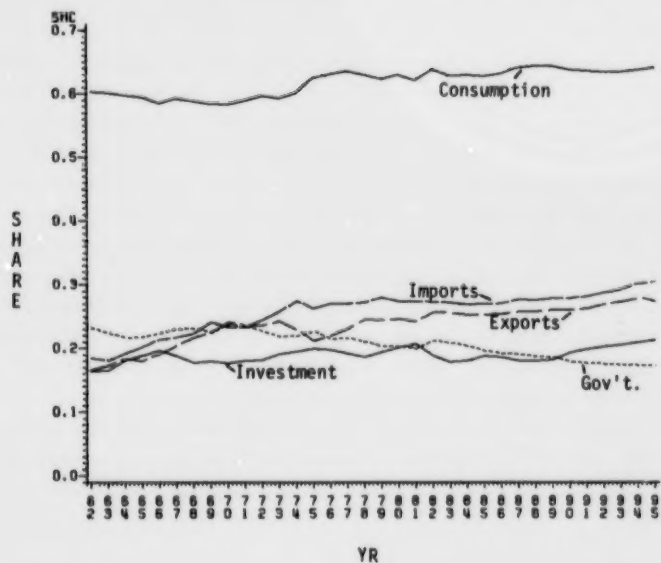
Furthermore, the model is unable to distinguish that it is the 'weak sisters' or poor corporate performers which presumably have been weeded out by the current recession, thereby leaving the corporate sector stronger and more efficient. On the other hand, the recession may be so severe that even the strong sectors will be unable to generate major productivity growth. In addition, rather than letting the weak sectors die, government may have to support them because of their tendency to be large employers. The net effect is that productivity is projected to grow quite slowly.

- The unemployment rate remains above 11 per cent through 1984 and above 7 per cent until 1995. A gap between the actual and natural unemployment rate persists throughout the scenario. (The fact that inflation diminishes little in the face of these high unemployment rates suggests that indeed the inflation assumptions are pessimistic.)

- Interest rates remain essentially in the mid-teens, moderating only slightly in the early 1990s. Persistent inflation of about 9 per cent and the

Chart 2

Expenditure Shares of GNP



maintenance of historically high real interest rates keep nominal rates high.

The composite picture is one of conflicting economic developments - high inflation and severe recession, poor productivity and high unemployment - with a single-minded policy intended to reduce inflation in the near term. Following a refocusing of government policy more on job formation, but without abandonment of the inflation fight, some economic progress is made later in the scenario.

Other policy environments can of course be envisaged. However, barring a government policy of 'growth at any cost' the real results may not be very different from those shown, assuming that inflation-fighting must remain a major focus of policy. Even assuming less exogenous inflationary pressure than included in this scenario, there is little latitude for expansionist fiscal and monetary policy and thus for substantially stronger real growth. Put otherwise, more exogenous 'room to manoeuvre' on inflation is most likely to be used to lower inflation and nominal (but not real) interest rates, and much less for additional real growth. So while this scenario includes pessimistic inflation assumptions, the end results are similar enough for the real variables to those for a less inflationary environment to make this scenario far more likely than a strong growth scenario.

3

National industrial detail – PRISM

The foregoing FOCUS results provide many of the key inputs to the industrial/provincial results developed with PRISM. In the first PRISM step the final demands calculated in FOCUS are converted by means of an input/output table and trend adjustment equations to national industry detail. Detailed industry output results are summarized in Table 5 and shown year by year in Appendix Tables 12-14. Shares of major industry groups in total output are shown in Chart 3.

Not surprisingly the goods-producing sectors suffer most from the current severe recession. Manufacturing output in particular takes until 1985 to recover its 1981 level (perhaps an overly pessimistic outcome), while its growth averages 3/4 of 1 per cent in the early 1990s. Service output, on the other hand, grows quite steadily for the next decade and one half except for the 4 plus per cent decline in 1982.

- Output in the primary sector falters seriously in the face of slack primary goods demand. Despite periodic improvements in output in forestry and in mineral fuels, real growth in the primary sector averages less than 1 per cent per annum over the projection horizon.
- Among the manufacturing sectors the outlook varies considerably.
- Following a modest recovery, food and beverage industry growth recedes in step with slower population growth.
- The textile and clothing industry recovers briskly in the mid-1980s only to decline in the early 1990s.

The Ontario Economy 1982 - 1995

TABLE 5
Growth rates by industry - Canada

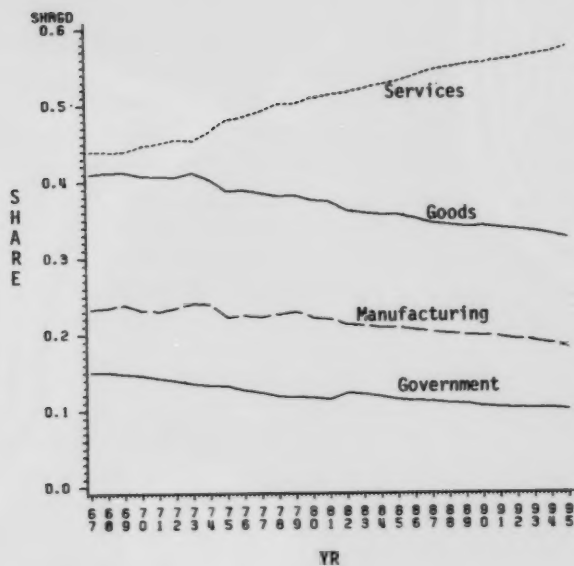
	1961 -73	1974 -80	1981 -85	1986 -90	1991 -95
1. Agriculture, Fishing	2.8	2.5	2.0	1.5	.5
2. Forestry	5.5	-0.3	-0.8	2.5	1.4
3. Mineral Fuel	10.7	-1.2	-0.2	1.7	4.0
4. Other Mining	4.3	0.9	-2.2	1.2	.2
5. Food & Beverages	4.3	2.0	1.2	1.4	.5
6. Textiles, Clothing	6.7	0.8	1.2	2.1	-0.6
7. Wood, Furniture	5.8	1.4	-0.6	2.4	1.6
8. Paper & Printing	4.9	2.7	.5	2.8	1.5
9. Metal Fabricating	6.0	1.8	.3	2.1	.6
10. Motor Vehicles	8.7	-1.5	4.6	.9	1.0
11. Machinery & Trans.	15.3	2.7	-1.2	3.3	.5
12. Electrical Products	8.1	0.5	-0.3	1.6	-0.3
13. Chemical, Petroleum	8.3	2.8	2.4	3.6	1.9
14. Non-Metallic Mineral	5.9	-0.5	1.3	2.5	1.5
15. Other Manufacturing	4.7	1.8	.8	1.0	-2.5
Total Manufacturing	6.6	1.6	.9	2.2	.8
16. Construction	4.5	2.4	2.1	2.3	2.5
17. Utilities	8.0	5.2	3.6	4.5	3.8
Total Goods	6.0	1.9	1.2	2.4	1.5
18. Transportation	6.6	2.4	1.5	2.7	1.6
19. Communication	6.9	8.3	5.9	7.2	6.1
20. Trade	6.2	2.7	1.5	3.7	2.6
21. Finance, Insurance & Real Estate	5.2	5.0	3.3	4.0	2.6
22. Other Service Industries	6.0	5.6	4.0	4.4	3.6
Total Service Industries	6.0	4.5	3.0	4.2	3.2
23. Government Sector	3.7	-0.0	1.5	1.5	1.6
TOTAL (GDP at Factor Cost)	5.6	2.9	2.2	3.3	2.4

The wood and furniture industries reflect the depressed U.S. and Canadian housing sectors in the near term, but recover moderately in the decade following 1984.

The 'metal fabricating', the 'machinery and other transportation equip-

Chart 3

Shares of Major Industry Groups in Total Output



ment' and the 'electrical products' industries grow very slowly in the near term and again in the early 1990s after weak recoveries in the mid-1980s and 1990s. This reflects the general pattern of machinery and equipment investment spending and continued strong import competition.

- Motor vehicle output recovers from very low levels in the recent past, but grows slowly thereafter.

- The paper, printing and allied industries put in a steady performance throughout the outlook horizon.

- Two winners in the manufacturing sector are the chemical and petroleum products industry and the non-metallic mineral products industry. The former benefits from major new investment and from the assured feed-stock supply during this period, while the latter benefits from major project construction in the later 1980s and the 1990s.

- The construction industry recovers only slowly from its current depressed state. However in 1985 and again in 1990, the construction industry experiences 9 plus per cent growth due to the assumed timing of major energy project activity.

- Utilities also suffer a decline in 1982 output, along with every other commercial sector except mineral fuels. However, recovery is swift in this sector, and strong growth persists into the mid-1990s. Again large capacity additions underlie this growth.

- All commercial service sector industries recover quickly from the 1982 downturn. Furthermore, all experience steady growth throughout the projection. The communications sector, in particular, sees fast growth, which is consistent with the expected 'information economy' and with past trends.

- The government sector is assumed to grow steadily at about 1½ per cent per annum. This conforms with present government policy and allows for a further gradual reduction in the relative size of government - a long established trend.

Provincial projection - PRISM

ASSUMPTIONS

Three other sets of assumptions or exogenously-projected variables are required to generate the provincial projections from the national industry detail. First are provincial output shares by industry. These are applied to the national industry output to calculate output by sector and province. The sum of industry outputs in each province yields, of course, an estimate of aggregate provincial real output. The second set of assumptions concerns differences across provinces in labour productivity in each sector. The third basic set of exogenous projections is for provincial population - especially the population of labour-force age.

It is important to note that these three sets of assumptions provide a check on one another. Together, the output-share and productivity assumptions will have a major impact on labour demand, while the population projections will affect labour supply. Too high or low a resulting unemployment rate for a province will signal an inconsistency on one or more of the sets of assumptions.

The three areas for which additional PRISM assumptions must be made are generally projected to reflect historical trends. Tables 6 through 8 show details of these assumptions.

- Output Shares: In PRISM there are three sources of change in aggregate provincial output shares. These are:

- Changes in the composition of national final demand. These can change

the industrial mix of national output and therefore one province's output share relative to others, even if provincial shares within sectors remain unchanged. A change in the industrial mix will affect most strongly those provinces specializing in the sectors affected. (E.g., a higher demand for cars raises Ontario's share of national output relative to the shares of other provinces, since Ontario is the major auto-producing province.)

- . Changes in the provincial shares of primary and secondary sectors brought about by geographic shifts in investment, population, resource availability, population skills, shifts in incentives, etc. (E.g., east coast natural resource development or expansion of Alberta's petrochemical industry capacity.)
- . Changes in provincial shares of 'nontransportable' or 'nontradeable' sectors - largely services - resulting from 1 and/or 2 above. (E.g., growth in retail trade or real estate agencies following an expansionary boom in a particular region.)

The first and third changes in output shares are for the most part determined within PRISM itself. The second set of changes requires industrial output shares to be adjusted to reflect specific knowledge about major investment programs like those enumerated in Table 2.

Additionally, for many sectors for which specific information on future shifts is unavailable, past trends - where strong and consistent - are extrapolated into the future. Charts 4, 6, 7 and 9 illustrate the extrapolations of share shifts made for 'mining' (other than mineral fuels), 'pulp and paper', 'primary metals and metal fabricating' and 'chemicals'. Charts 5 and 8 illustrate the pattern of mineral fuels and construction shares emerging from a combination of the major projects of Table 2 and judgemental projections based on past trends. The provincial shares of total output from this projection are provided in Table 6 (and plotted in Chart 14). Charts 10 and 11 show the evolution of output shares for manufacturing and total goods-producing.

- . The Newfoundland and Nova Scotia shares of mineral fuels jump markedly as Sable Island and Hibernia reach production. The rising shares in the two eastern provinces shown in Chart 5 do reduce Alberta's share somewhat, as do increases in output of oil (and coal) in British Columbia,

Chart 4

Output Shares By Province - Other Mining

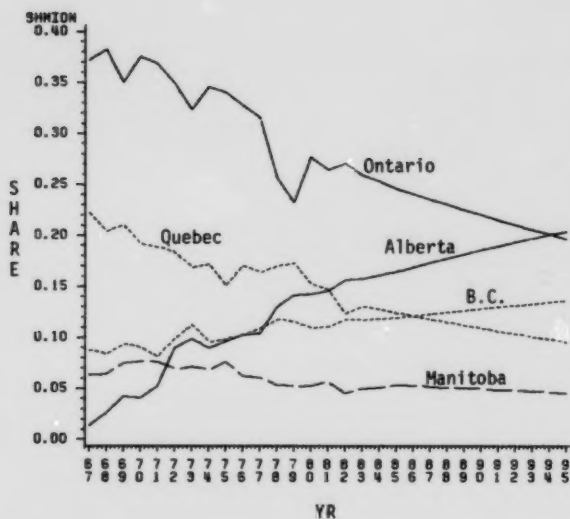


Chart 5

Output Shares By Province - Mineral Fuels

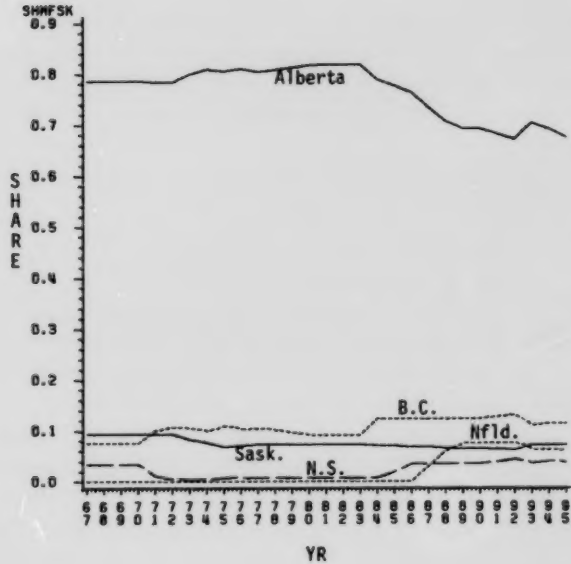


Chart 6

Output Shares By Province - Pulp and Paper

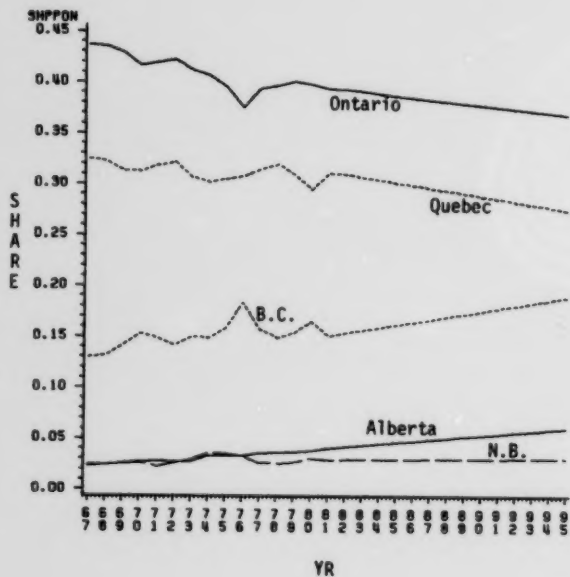


Chart 7

Output Shares by Province - Primary Metal and Metal Fabricating

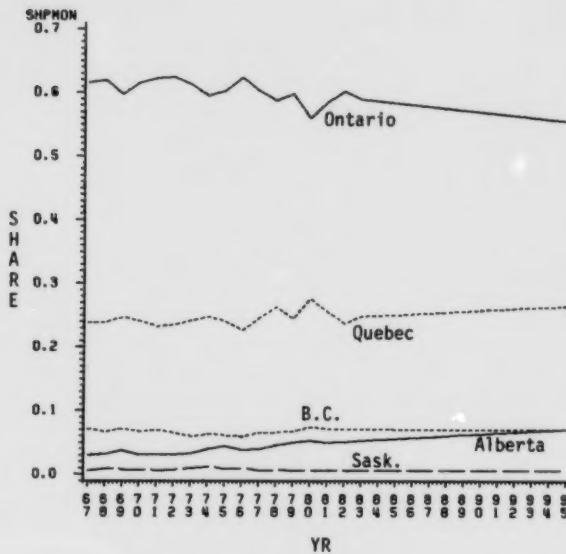


Chart 8

Output Shares By Province - Construction

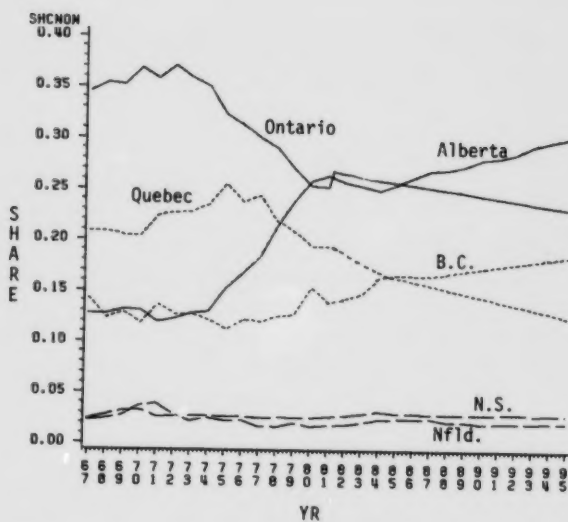


Chart 9

Output Shares By Province - Chemicals and Petroleum

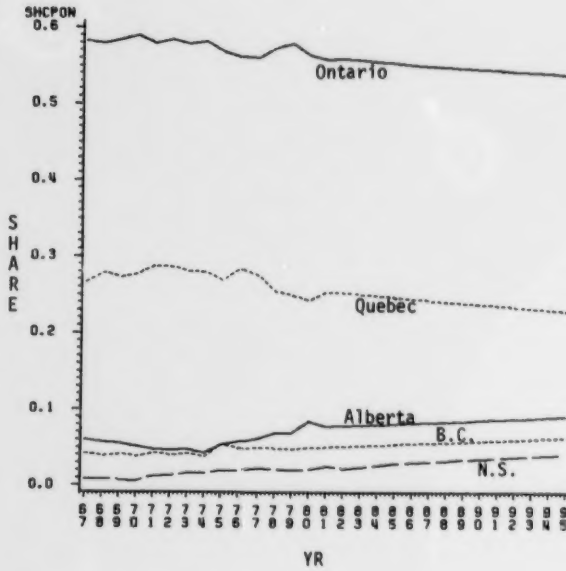


TABLE 6
Real output shares by province

	Annual averages				
	1967 -73	1974 -80	1981 -85	1986 -90	1991 -95
Newfoundland	.014	.014	.0142	.0150	.0155
Prince Edward Island	.003	.003	.0027	.0025	.0025
Nova Scotia	.026	.024	.0289	.0244	.0249
New Brunswick	.019	.019	.0186	.0184	.0184
Quebec	.239	.238	.228	.221	.215
Ontario	.419	.403	.390	.386	.380
Manitoba	.043	.040	.038	.037	.037
Saskatchewan	.038	.036	.036	.036	.037
Alberta	.088	.104	.122	.126	.132
British Columbia	.109	.116	.125	.130	.135
Territories	.002	.002	.0026	.0027	.0033

Saskatchewan and (in 1995) the Territories.

Relative output shares have shifted radically in 'other mining' in the last decade and a half. In this scenario, these trends are projected to continue as shown in Chart 4.

In the construction industry provincial shares have also moved significantly, albeit less smoothly than in some other sectors. Generally the trends are projected to continue although it could be argued that the most important regional shifts have now taken place and that a more stable period lies ahead. The continued high projected share for Alberta may thus be overly optimistic for that province.

Productivity Differences: The second group of assumptions necessary to PRISM centres on provincial industrial labour productivity differentials. These variables affect, of course, the level and mix of provincial/industrial

Chart 10

Output Shares By Province - Manufacturing

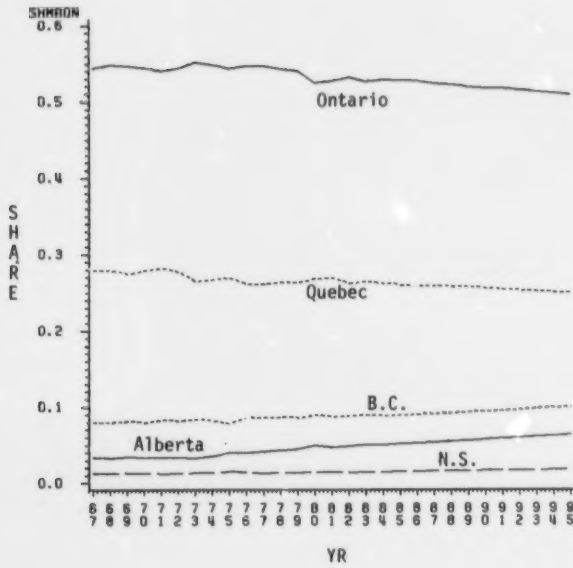
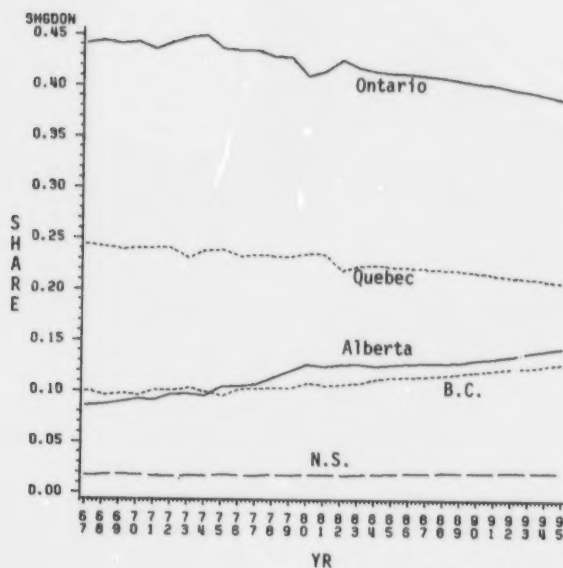


Chart 11

Output Shares By Province - Goods Producing



The Ontario Economy 1982 - 1995

TABLE 7

Labour productivity by province: all industries (per cent deviation from national)

	Annual averages				
	1967 -73	1974 -80	1981 -85	1986 -90	1991 -95
Newfoundland	-17	-16	-19	-18	-19
Prince Edward Island	-39	-37	-38	-39	-39
Nova Scotia	-19	-21	-20	-19	-19
New Brunswick	-22	-21	-23	-24	-24
Quebec	-12	-7	-6	-6	-6
Ontario	10	5	1	1	0
Manitoba	-9	-10	-12	-11	-10
Saskatchewan	-10	-10	-11	-10	-9
Alberta	11	16	20	20	20
British Columbia	7	7	10	10	10

employment. Again, historical levels and trends are the major determinants of the provincial productivity-differential projections.

Aggregate productivity does vary considerably from province to province as shown in Table 7, and for a variety of reasons, among which differences in industrial composition is a key element.

Table 8, for example, shows that P.E.I. manufacturing productivity compares very unfavourably with the national average. This is due in part to the almost exclusive concentration of manufacturing in P.E.I. in the labour intensive food, feed and beverage industry.

On the other hand, Alberta's strong showing in terms of manufacturing productivity reflects in part the relatively large share of the chemical and petroleum products and non-metallic minerals industries in Alberta; both are high productivity sectors nationally. Moreover, Alberta's

TABLE 8
Productivity - manufacturing (per cent deviation from national)

	Annual averages				
	1967 -73	1974 -80	1981 -85	1986 -90	1991 -95
Newfoundland	-32	-45	-55	-60	-64
Prince Edward Island	-37	-50	-51	-52	-54
Nova Scotia	-43	-39	-38	-35	-33
New Brunswick	-33	-32	-31	-32	-33
Quebec	-13	-12	-8	-6	-4
Ontario	15	13	9	7	5
Manitoba	-29	-21	-17	-12	-6
Saskatchewan	-8	-15	-12	-12	-12
Alberta	5	5	11	13	14
British Columbia	1	-1	7	10	12

attempt to develop its chemical industry on a world scale has added the efficiencies of large scale to its productivity results.

An additional factor favouring relative productivity improvements in Alberta and British Columbia is the relatively newer vintage of their capital stocks. This relatively newer capital stock is more likely to embody recent technological innovation. The strong investment anticipated in the west suggests a continuation of these productivity trends.

Ontario's large scale manufacturing facilities have dominated the national economy and accounted for the province's high relative productivity in the past. However, as new economic development has tended to shift west and Quebec's productivity has increasingly 'caught up' to the national, Ontario productivity has settled towards the national average.

Barring the unusual circumstances of Alberta and British Columbia where

The Ontario Economy 1982 - 1995

TABLE 9
Productivity - goods producing (per cent deviation from national)

	Annual averages				
	1967 -73	1974 -80	1981 -85	1986 -90	1991 -95
Newfoundland	-11	-11	-20	-19	-21
Prince Edward Island	-60	-58	-62	-62	-61
Nova Scotia	-35	-33	-33	-29	-27
New Brunswick	-28	-25	-25	-25	-25
Quebec	-11	-8	-3	-1	3
Ontario	13	10	6	6	6
Manitoba	-23	-22	-22	-19	-14
Saskatchewan	-26	-28	-28	-27	-26
Alberta	21	18	12	7	1
British Columbia	6	3	7	6	4

the industrial composition is weighted towards high productivity industries, and where capital and management are on average newer and more productive, the tendency in recent years has been for aggregate provincial productivities, particularly in central Canada, to converge rather than drift apart.*

Over the forecast horizon these trends are expected to continue with the total relative productivity of most provinces moving little or moving towards the national average with the significant exception of Alberta and British Columbia. The productivity of the two western provinces is expected to increase relative to the national average because of the high proportion of total new investment going to these provinces and leading to industrial diversification following the development of the mineral fuels sector.

In the case of Newfoundland it is conceivable that development of the

* See Pierre Fortin, Economic Growth in Quebec (1978-80): The Human Capital Connection, PEAP Policy Study No. 82-4, September 1982.

mineral fuels sector would buoy relative productivity in at least some sectors as it did in the 1970s in Alberta and British Columbia. However the present projections adopt the 'safer' but more pessimistic course of continuing a relatively poor productivity-differential for Newfoundland into the future. Nova Scotia manufacturing does show an improvement in its differential through the projection; this, however, is more the result of a larger share of the high-productivity chemical and petroleum sector in its manufacturing mix than an improvement in its productivity differential within individual sectors.

Note finally that while past trends have generally been extended for individual sectors within provinces, the result for aggregate provincial productivity differentials also depends on the changing relative industrial mix within sectors. The aggregate results reported in Tables 7, 8 and 9, and in Chart 12 are thus not solely the result of sector-by-sector and province-by-province extrapolation. Note, for example, in Table 8 that the productivity differential of Alberta does continue to improve in the 1980s and 1990s reflecting the basic extrapolations discussed above. However, the aggregate differential for Alberta levels off in the 1980s and 1990s (see Table 7 and Chart 12). The reason is the high share of mineral fuels and the growing share of mining in Alberta - each of these sectors is projected nationally to feature low or negative productivity growth.

Population:

- Finally, the growth of total population and of population of labour-force age by province (see Chart 13 and Table 10) incorporates exogenous projections done independently by David Foot. (David Foot, Canada's Population Outlook, Canadian Institute for Economic Policy, Ottawa, 1982.) The basic scenario used was of 'high westward migration'; however, some reduction in the extent of net migration to Alberta, and out of Newfoundland, was incorporated in the scenario in order to achieve a consistent projection. Generally the labour force source population growth is expected to decelerate (see Table 10).

- . The slowest growth is expected from Quebec west to Saskatchewan.
- . The strongest growth occurs in Alberta and British Columbia which benefit from westward net migration.
- . A low rate of natural increase, as well as some out-migration, keeps

Chart 12

Productivity: Ratio to National Average

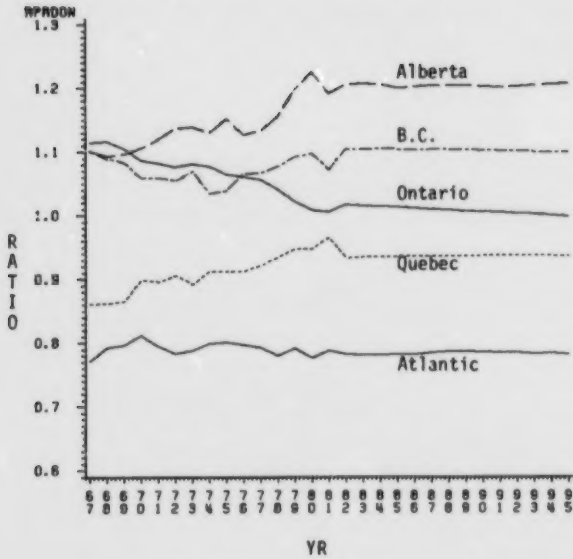


TABLE 10
Growth of labour-force source population

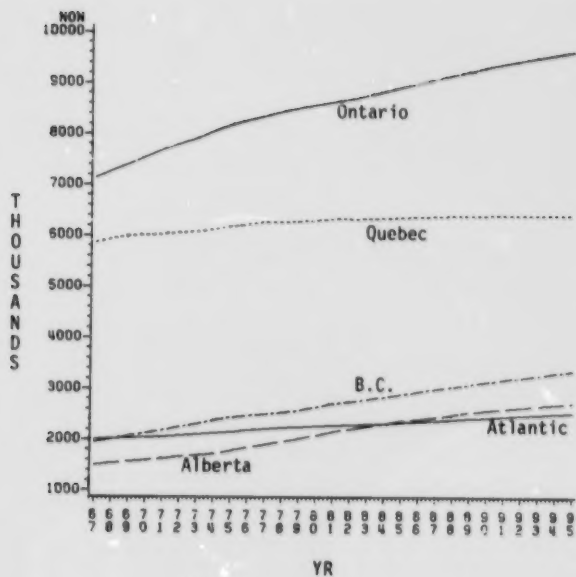
	Annual averages				
	1967 -73	1974 -80	1981 -85	1986 -90	1991 -95
Canada	2.7	2.1	1.4	1.0	.9
Newfoundland	2.4	2.3	2.0	1.5	1.3
Prince Edward Island	1.9	2.3	1.1	1.2	1.2
Nova Scotia	2.2	1.9	1.1	1.0	1.0
New Brunswick	2.2	2.3	1.3	1.2	1.2
Quebec	2.2	1.6	.5	.2	.3
Ontario	3.0	2.0	1.3	1.0	.9
Manitoba	1.6	1.1	.8	.8	.6
Saskatchewan	.3	1.8	1.6	.7	.5
Alberta	3.4	4.1	3.3	2.2	1.5
British Columbia	4.1	2.8	2.5	2.0	1.6

population growth low in Quebec and, to a lesser extent, in Manitoba (and, in the later 1980s, Saskatchewan). (Fertility fell in Quebec before the other provinces and the 'baby boom' was smaller and ended earlier.)

For Newfoundland net out-migration is not as high as in some past estimates, reflecting a relative increase in opportunity in the province due to Hibernia and related developments.

Chart 13

Population By Region



5

Provincial projection: overview of results

OUTPUT

Chart 14 illustrates the pattern of total output shares by region over the projection horizon. Generally, central Canada experiences a declining share of output while the shares of Alberta and British Columbia grow. This is not, of course, an indication of negative growth in central Canada, but rather a result of relatively strong growth in the west (see Table 11 and Chart 15). The output share of the Atlantic provinces remains virtually constant. Within the Atlantic region there are (small) increases in share for Newfoundland and Nova Scotia, and decreases for New Brunswick and Prince Edward Island.

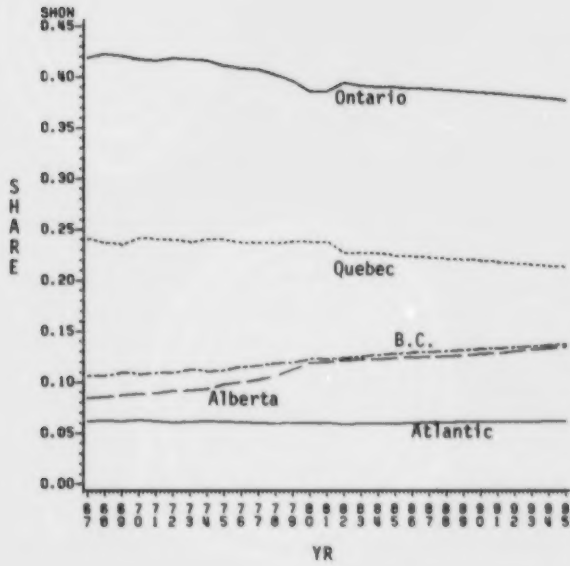
OUTPUT DEFLATORS

Table 12 presents a summary of provincial output deflators, while Table 13 shows shares of nominal output by province. It is important to note that the output deflators are measures of the prices of the output of the provinces and not measures of inflation in the prices of consumer goods or other expenditure items. (No estimate has been made of consumer-price inflation by province, and indeed the differentials are often not large.) As an output price, a rise in this deflator is 'good' for the province concerned, in that it represents a shift in the terms of trade in its favour. Note that the highest growth rate for 1973-80 and 1981-85 is for Alberta, reflecting the increased relative prices for oil and gas.

The continued move towards world prices in oil and gas keeps the

Chart 14

Share of Total Output - By Regions



Provincial Projection: Overview of Results

TABLE 11
Growth rates of real output by province

	Annual averages				
	1967 -73	1974 -80	1981 -85	1986 -90	1991 -95
Canada	5.2	2.9	2.2	3.3	2.4
Newfoundland	5.2	3.4	2.7	4.5	2.6
Prince Edward Island	5.2	2.4	.9	2.9	2.3
Nova Scotia	4.1	2.4	2.1	3.7	2.9
New Brunswick	5.5	2.2	2.1	3.2	2.5
Quebec	5.0	2.9	1.0	2.8	1.9
Ontario	5.1	1.8	2.4	3.0	2.0
Manitoba	4.7	1.6	1.8	3.1	2.2
Saskatchewan	1.5	3.3	2.1	3.7	3.0
Alberta	6.9	6.7	3.0	3.9	3.6
British Columbia	6.3	4.2	3.0	4.0	3.2
Territories	8.4	.7	4.7	4.5	7.6

Alberta deflator above the national average in 1981-85. In the later 1980s, oil prices move more at average rates, and the share of Alberta in mineral-fuels production declines, leaving its output deflator at about the national average.

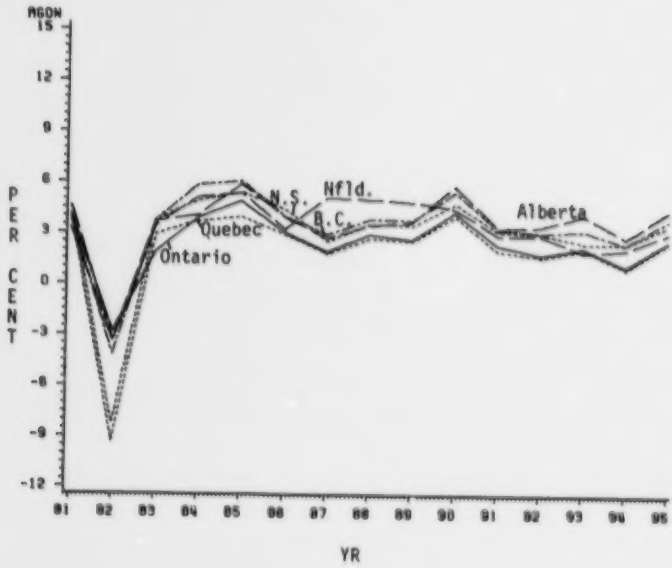
The deflators of Newfoundland and Nova Scotia rise in the 1980s, reflecting the increased weight of oil and gas production in their economies. There is a similar surge for the Territories in the early 1990s.

Quebec and Ontario remain somewhat below the national average in the 1980s, as in 1973-80. The 'terms of trade' shift gradually against each as oil and gas consumers rather than producers.

Shares of nominal output (Table 13) reflect not only real-output but also

Chart 15

Output Growth - By Region



Provincial Projection: Overview of Results

TABLE 12
Growth rates of GDP deflators by province

	Annual averages				
	1967 -73	1974 -80	1981 -85	1986 -90	1991 -95
Canada	5.1	10.7	10.1	9.1	8.9
Newfoundland	4.7	10.5	10.9	14.0	8.8
Prince Edward Island	6.5	10.9	9.2	9.8	9.4
Nova Scotia	6.2	9.9	11.1	10.3	9.5
New Brunswick	5.1	11.2	9.3	9.0	8.7
Quebec	4.0	10.1	9.9	8.9	8.5
Ontario	5.3	10.1	9.9	8.9	8.6
Manitoba	5.2	9.9	9.8	9.1	8.6
Saskatchewan	5.7	11.7	9.2	9.2	8.9
Alberta	5.1	12.7	10.9	9.2	9.0
British Columbia	6.1	9.5	10.2	9.3	8.7
Territories	6.4	13.6	8.8	9.3	14.6

terms-of-trade shifts, and are thus a first measure of provincial income.

- Note the major increases in share for Alberta over both the 1970s and 1980s, the combined result of high activity and a favourable terms-of-trade shift.
- Note also the rise in share in the late 1980s for Newfoundland and Nova Scotia.
- A long-term loss of income share is concentrated in the four central provinces - New Brunswick through Manitoba.

EMPLOYMENT; UNEMPLOYMENT RATES

Table 14 and Chart 16 show average unemployment rates by province and region respectively.

The Ontario Economy 1982 - 1995

TABLE 13
Shares of nominal GDP - by province

	Annual averages				
	1967 -73	1974 -80	1981 -85	1986 -90	1991 -95
Newfoundland	.0138	.0137	.0140	.0174	.0192
Prince Edward Island	.0028	.0029	.0028	.0027	.0027
Nova Scotia	.0254	.0245	.0236	.0257	.0271
New Brunswick	.0193	.0199	.0190	.0185	.0184
Quebec	.243	.231	.216	.206	.199
Ontario	.412	.382	.369	.361	.351
Manitoba	.043	.040	.036	.036	.035
Saskatchewan	.039	.043	.042	.042	.043
Alberta	.089	.122	.140	.155	.163
British Columbia	.109	.118	.124	.131	.136
Territories	.0028	.0033	.0035	.0037	.0049

- Unemployment rates rise in all provinces in 1981-85, relative to 1973-80. The most notable increases are in Quebec (4 percentage points) and Alberta (2+ percentage points but a 50 per cent increase). There is also a large relative increase in Ontario, but the province does stay below the national average.
- In the later 1980s and early 1990s the national unemployment rate falls, and all provincial rates as well - but to varying degrees.
- The decline in the Newfoundland rate is still such as to leave it with the highest rate - despite Hibernia activity and a high growth rate for employment. The unemployment rate remains high because increased activity encourages many 'discouraged workers' to re-enter the labour force. Even so, the Newfoundland participation rate remains the lowest in the country.
- The Quebec unemployment rate falls more than the national average in

Provincial Projection: Overview of Results

TABLE 14
Unemployment rates - by province

	Annual averages				
	1967 -73	1974 -80	1981 -85	1986 -90	1991 -95
Canada	5.2	7.3	10.3	9.0	7.4
Newfoundland	7.9	14.5	16.2	14.4	12.3
Prince Edward Island	7.3	9.5	12.8	12.3	11.5
Nova Scotia	5.8	9.3	12.4	11.0	9.5
New Brunswick	6.5	10.9	14.1	13.2	11.4
Quebec	6.4	9.1	13.2	11.8	9.8
Ontario	4.2	6.4	9.4	7.9	6.3
Manitoba	4.4	5.2	7.3	6.2	5.8
Saskatchewan	3.3	3.9	5.8	5.2	4.1
Alberta	4.4	4.0	6.6	6.2	4.5
British Columbia	6.5	7.8	10.5	9.2	7.8

the later 1980s and early 1990s even with a considerable increase in participation. The low rate of labour-force growth in Quebec should give a downward thrust to the Quebec unemployment rate in the later 1980s and 1990s.

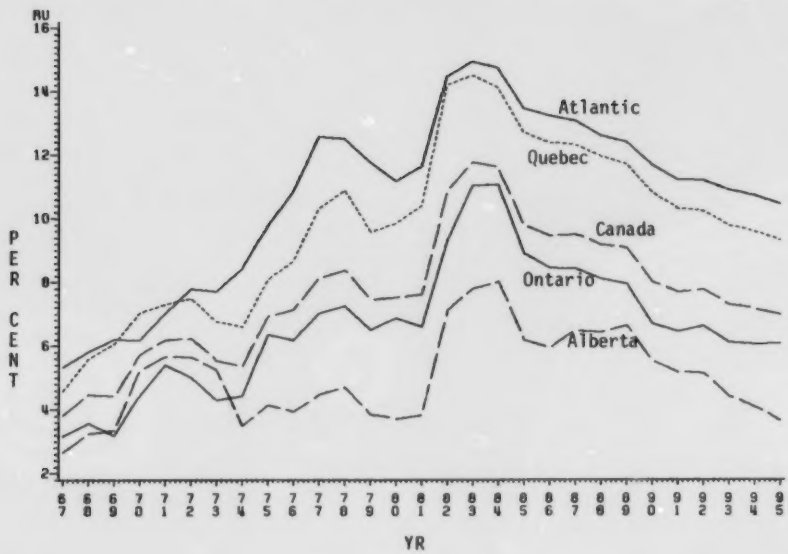
Unemployment rates also fall in the west, but not to earlier low levels. Of course, western rates are especially sensitive to assumptions about interprovincial migration.

PERSONAL INCOME

All incomes are deflated to real terms by the national CPI. Since estimation of personal income is only rudimentary as yet in the PRISM model, the figures should be taken as suggestive only. Real personal income per capita is summarized in Table 15 and Chart 17 and is expressed as a ratio to the national average. Growth rates of real personal disposable income per capita

Chart 16

Unemployment Rates - By Region



Provincial Projection: Overview of Results

TABLE 15

Ratio of real disposable income per capita to national

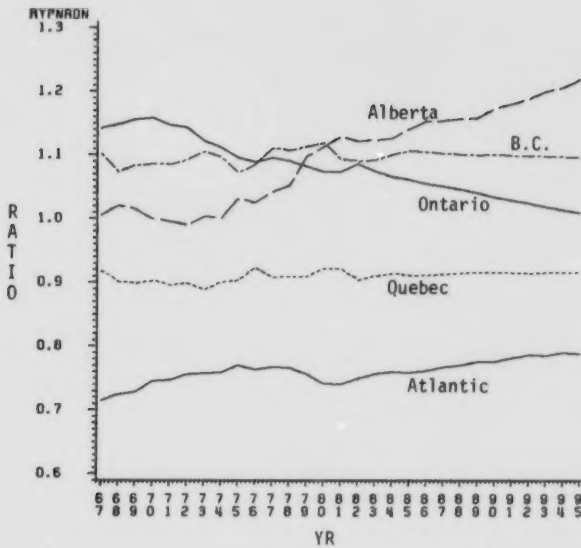
	Annual averages				
	1967 -73	1974 -80	1981 -85	1986 -90	1991 -95
Newfoundland	.66	.69	.68	.73	.76
Prince Edward Island	.69	.73	.76	.74	.75
Nova Scotia	.80	.81	.81	.82	.84
New Brunswick	.74	.76	.74	.74	.75
Quebec	.90	.91	.91	.91	.92
Ontario	1.15	1.09	1.07	1.05	1.02
Manitoba	.96	.97	.95	.95	.95
Saskatchewan	.85	.99	.97	1.01	1.07
Alberta	1.00	1.05	1.13	1.16	1.20
British Columbia	1.09	1.10	1.10	1.10	1.10

are summarized in Table 16.

- In 1981-85 three provinces - Ontario, Quebec and British Columbia - are below the low national average growth rate. With the higher portions of income coming from transfers in the Atlantic provinces (and, to some extent, Quebec), declines in output and activity have less of a relative impact on incomes. In the west, the fact that real growth itself is above average keeps income growth up.
- In 1986-90 income growth is above average in Newfoundland and Nova Scotia - again reflecting energy income. This assumes that some of the additional revenue from royalties is passed on to residents by their provincial governments in the form of reduced tax burdens.
- Alberta recovers its former position with respect to income growth, and Saskatchewan also does well. The British Columbia per capita income is in part kept near the national average by in-migration.

Chart 17

Real Personal Disposable Income Per Capita
Ratio to National Average



Provincial Projection: Overview of Results

TABLE 16

Growth rates of real personal disposal income per capita - by province

	Annual averages				
	1967 -73	1974 -80	1981 -85	1986 -90	1991 -95
Canada	4.3	2.5	.8	1.4	1.3
Newfoundland	5.4	2.1	2.2	2.6	1.7
Prince Edward Island	7.0	2.4	.7	1.4	1.5
Nova Scotia	5.3	2.5	1.0	1.8	1.8
New Brunswick	5.5	2.0	1.1	1.4	1.4
Quebec	4.0	3.1	.6	1.5	1.3
Ontario	4.0	1.9	.6	.9	.8
Manitoba	5.3	1.6	1.1	1.5	1.2
Saskatchewan	4.5	2.2	1.5	2.6	2.3
Alberta	4.0	4.1	1.3	2.0	2.1
British Columbia	4.2	2.7	.6	1.3	1.3

- The rate of growth for Saskatchewan may be a trifle high as a result of a combination of good returns to farmers and relatively low population growth.
- A comparison of the later 1980s and early 1990s and 1962-73 shows that personal-income differentials have generally narrowed and are projected to continue to do so. Exceptions are Alberta and Saskatchewan - which continue to rise above the national average, and New Brunswick and Manitoba - which neither gain nor lose.
- Ontario, Alberta and British Columbia remain the principal 'have' provinces. Alberta supplants Ontario and British Columbia as the province of highest relative income - but the ratio is not much greater than that of Ontario in 1967-73.
- Newfoundland catches up to New Brunswick and Prince Edward Island, especially with Hibernia. Still, the Atlantic remains well behind the central and western regions.

6

Results by province

Tables 17 and 18 provide summary results by province. For the very near term it should be noted that because provincial output data are published only after considerable delay, available labour-force survey data have been used to give rough estimates of current output and employment developments.

The Newfoundland economy finally begins to enjoy a taste of prosperity in this scenario as a result of the Hibernia oil field development.

- RDP grows in excess of 3 per cent per annum through the 1980s after a 3½ per cent decline in 1982.
 - . Construction RDP benefits from the Hibernia development in the 1980s.
 - . Utilities grow robustly.
 - . Associated services grow briskly.
- Employment grows very fast, particularly during the building phase of Hibernia.
 - . The unemployment rate winds down from over 17 per cent in 1983 and 1984 to under 12 per cent by 1995.
- Real personal disposable income per capita grows rapidly but only lifts Newfoundlanders' income from 2/3 to 3/4 of the national average.

Prince Edward Island experiences a severe recession in 1982 suffering a

Table 17

REAL GDP

(MILLIONS OF 1971 DOLLARS)

	1981	1982	1983	1984	1985	1986	1987	1988
CANADA	118693	113754	116850	121687	127681	131909	134864	139140
NEWFOUNDLAND	1669	1611	1657	1752	1845	1905	2002	2101
PRINCE EDWARD ISLAND	337	302	308	317	327	326	343	353
NOVA SCOTIA	2812	2671	2772	2908	3058	3200	3366	3536
NEW BRUNSWICK	2214	2116	2175	2258	2359	2431	2481	2559
QUEBEC	28383	25742	26487	27467	28553	29378	29911	30599
ONTARIO	46118	44807	45646	47424	48736	51264	52270	53607
MANITOBA	4582	4274	4392	4554	4757	4808	5013	5160
SASKATCHEWAN	4239	4059	4193	4349	4566	4718	4836	5038
ALBERTA	14275	13788	14308	14887	15761	16384	16833	17421
BRITISH COLUMBIA	14636	14022	14544	15395	16225	16974	17473	18143
YUKON & N.W.T.	302	294	304	319	341	351	389	380
EXTERNAL & DISCREPANCY	56	56	56	56	56	56	56	56

GDP DEFATORS

(1971 = 1.0)

	1981	1982	1983	1984	1985	1986	1987	1988
CANADA	2.51	2.82	3.10	3.40	3.77	4.13	4.53	4.95
NEWFOUNDLAND	2.45	2.76	3.04	3.37	3.78	4.17	4.58	5.08
PRINCE EDWARD ISLAND	2.87	2.96	3.23	3.54	3.93	4.32	4.77	5.24
NOVA SCOTIA	2.47	2.76	3.04	3.35	3.81	4.30	4.75	5.22
NEW BRUNSWICK	2.61	2.90	3.16	3.45	3.81	4.16	4.58	4.96
QUEBEC	2.38	2.66	2.92	3.21	3.58	3.88	4.25	4.63
ONTARIO	2.42	2.77	2.93	3.21	3.53	3.88	4.24	4.63
MANITOBA	2.96	3.23	3.00	3.29	3.66	4.00	4.38	4.79
SASKATCHEWAN	2.96	3.23	3.00	3.29	3.66	4.00	4.38	4.79
ALBERTA	3.06	3.49	3.62	3.95	4.38	4.79	5.27	5.74
BRITISH COLUMBIA	2.40	2.78	3.06	3.40	3.78	4.15	4.52	4.98
YUKON & N.W.T.	3.48	3.89	4.21	4.57	5.06	5.52	6.06	6.60

Table 17 (cont'd.)

REAL GDP

(MILLIONS OF 1971 DOLLARS)

	1989	1990	1991	1992	1993	1994	1995
CANADA	143323	148935	153799	157290	161431	164043	165189
NEWFOUNDLAND	2203	2301	2369	2438	2485	2538	2616
PRINCE EDWARD ISLAND	363	376	385	393	403	410	422
NOVA SCOTIA	3516	3683	3799	3913	4010	4108	4254
NEW BRUNSWICK	2637	2756	2825	2891	2970	3024	3120
QUEBEC	21500	22561	23574	24559	25519	26320	27204
ONTARIO	83350	87594	92937	98008	102855	107033	111566
MANITOBA	5335	5531	5686	5769	5899	5989	6156
SASKATCHEWAN	5213	5480	5611	5799	5977	6112	6337
ALBERTA	18084	19114	19752	20429	21270	21860	22818
BRITISH COLUMBIA	18824	19848	20488	21130	21807	22335	23201
YUKON & N.W.T.	396	434	487	494	512	537	610
EXTERNAL & DISCREPANCY	56	55	55	55	56	56	56

GDP DEFLATORS

(1971 = 1.0)

	1989	1990	1991	1992	1993	1994	1995
CANADA	5.37	5.85	6.35	6.90	7.49	8.15	8.92
NEWFOUNDLAND	6.52	7.35	7.94	8.70	9.24	10.12	11.07
PRINCE EDWARD ISLAND	9.72	6.25	6.87	7.48	8.19	8.97	9.84
NOVA SCOTIA	9.69	6.22	6.85	7.52	8.11	8.92	9.77
NEW BRUNSWICK	9.38	9.85	6.37	6.86	7.48	8.12	8.87
QUEBEC	9.01	9.45	9.92	6.39	6.93	7.52	8.21
ONTARIO	9.01	9.45	9.91	6.39	6.93	7.53	8.22
MANITOBA	9.19	9.65	6.15	6.64	7.22	7.84	8.55
SASKATCHEWAN	6.22	6.78	7.37	7.97	8.74	9.51	10.38
ALBERTA	6.51	7.20	7.83	8.52	9.33	10.14	11.09
BRITISH COLUMBIA	5.40	5.89	6.42	6.96	7.51	8.17	8.94
YUKON & N.W.T.	7.18	7.85	8.85	9.94	10.60	11.92	15.40

Table 17 (cont'd.)

REAL GDP

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988
CANADA	4.03	-4.96	2.72	4.14	4.93	3.30	2.24	3.17
NEWFOUNDLAND	3.26	-3.44	3.44	5.12	5.33	3.21	5.09	4.98
PRINCE EDWARD ISLAND	6.92	-10.55	2.07	3.06	3.09	2.74	2.22	2.70
NOVA SCOTIA	4.56	-8.26	3.77	4.93	4.38	4.42	2.54	3.54
NEW BRUNSWICK	3.74	-8.31	2.71	3.81	3.86	3.03	2.17	3.03
QUEBEC	3.94	-8.31	2.90	3.70	3.98	3.90	1.81	2.70
ONTARIO	4.06	-2.84	1.87	3.88	4.88	3.90	1.96	2.94
MANITOWA	4.41	-8.11	2.78	3.70	4.45	3.17	2.14	2.95
SASKATCHEWAN	2.48	-4.25	3.31	3.73	4.98	3.32	2.11	4.16
ALBERTA	3.72	-3.34	3.69	4.05	5.87	3.95	3.74	3.48
BRITISH COLUMBIA	11.05	-4.20	3.72	5.85	6.04	3.88	2.84	3.83
YUKON & N.W.T.	-3.29	0.0	0.0	0.0	6.85	3.21	2.08	6.00
EXTERNAL & DISCREPANCY								

GDP DEFLATORS

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988
CANADA	7.74	12.12	9.86	9.80	10.76	9.64	9.72	9.25
NEWFOUNDLAND	8.86	12.49	10.32	10.68	12.31	10.28	19.36	16.08
PRINCE EDWARD ISLAND	5.58	10.72	8.01	9.81	10.51	10.04	10.36	9.78
NOVA SCOTIA	6.43	12.03	9.86	10.44	13.53	12.91	10.43	9.88
NEW BRUNSWICK	6.56	11.37	8.88	9.24	10.42	9.21	9.38	8.97
QUEBEC	7.19	11.60	9.83	9.90	10.75	9.25	9.32	9.03
ONTARIO	7.89	11.65	9.82	9.56	10.63	9.26	9.36	8.09
MANITOWA	7.05	11.22	9.77	9.87	11.07	8.37	9.88	9.16
SASKATCHEWAN	5.02	11.87	9.35	9.28	10.64	8.57	9.86	8.86
ALBERTA	10.25	14.33	10.62	9.24	9.94	10.26	9.76	8.81
BRITISH COLUMBIA	7.23	11.70	9.94	11.10	11.11	9.81	9.74	9.25
YUKON & N.W.T.	9.10	11.85	8.33	8.48	10.39	9.51	8.73	8.52

Table 17 (cont'd.)

REAL GDP

(YEAR-OVER-YEAR PER-CENT CHANGE)

CANADA

NEWFOUNDLAND
 PRINCE EDWARD ISLAND
 NOVA SCOTIA
 NEW BRUNSWICK
 QUEBEC
 ONTARIO
 MANITOBA
 SASKATCHEWAN
 ALBERTA
 BRITISH COLUMBIA
 YUKON & N.W.T.

EXTERNAL & DISCREPANCY

1988 1989 1990 1991 1992 1993 1994 1995

3.01 4.61 2.58 2.27 2.63 1.62 3.14

4.84 4.46 2.93 2.92 1.94 2.12 3.08

3.47 3.75 2.22 2.07 1.52 1.75 3.01

3.04 4.78 3.14 3.01 2.48 2.43 3.95

2.84 4.51 2.52 2.23 2.75 1.81 3.16

2.66 4.02 1.87 1.65 2.08 1.00 2.57

2.81 4.26 2.33 1.82 2.24 1.14 2.51

3.47 4.26 2.26 1.99 2.43 1.35 2.78

3.60 5.11 2.95 2.80 3.09 2.26 3.69

3.76 5.44 3.28 3.43 4.12 2.77 4.28

4.27 6.90 10.18 5.92 3.52 4.99 13.51

0.0 0.0 0.0 0.0 0.0 0.0 0.0

GDP DEFLATORS

(YEAR-OVER-YEAR PER-CENT CHANGE)

CANADA

NEWFOUNDLAND
 PRINCE EDWARD ISLAND
 NOVA SCOTIA
 NEW BRUNSWICK
 QUEBEC
 ONTARIO
 MANITOBA
 SASKATCHEWAN
 ALBERTA
 BRITISH COLUMBIA
 YUKON & N.W.T.

1988 1989 1990 1991 1992 1993 1994 1995

8.46 8.88 8.80 8.36 8.63 8.81 9.23

12.63 9.64 9.38 9.55 6.29 9.48 9.40

9.18 9.56 9.62 8.91 9.46 9.54 9.70

9.03 9.42 10.09 9.74 7.83 10.06 9.53

8.34 8.85 8.83 8.08 8.58 8.65 9.20

8.28 8.67 8.53 7.83 8.50 8.54 9.12

8.33 8.44 8.72 7.00 8.52 8.59 9.08

8.17 8.29 8.04 7.08 8.16 8.15 8.98

8.23 8.96 8.70 8.85 9.59 8.76 9.11

8.13 8.96 8.43 8.85 8.74 9.34 9.34

8.47 9.02 9.04 8.43 7.85 8.86 9.34

8.72 9.50 12.61 12.32 6.56 12.48 29.20

Table 18
 EMPLOYMENT
 (THOUSANDS)

	1981	1982	1983	1984	1985	1986	1987	1988
CANADA	10833	10584	10516	10872	11345	11631	11853	12043
NEWFOUNDLAND	187	183	186	192	203	209	216	221
PRINCE EDWARD ISLAND	48	45	46	46	48	48	49	50
NOVA SCOTIA	330	312	315	325	339	349	356	363
NEW BRUNSWICK	262	256	258	263	270	277	286	291
QUEBEC	2685	2564	2571	2622	2709	2774	2808	2839
ONTARIO	4186	4096	4063	4174	4358	4487	4547	4616
MANITOBA	462	456	456	464	480	481	486	504
SASKATCHEWAN	432	426	428	436	454	464	473	484
ALBERTA	1085	1065	1077	1104	1167	1202	1228	1252
BRITISH COLUMBIA	1247	1161	1196	1245	1314	1356	1391	1423

UNEMPLOYMENT RATES
 (PER CENT)

	1981	1982	1983	1984	1985	1986	1987	1988
CANADA	7.61	10.84	11.76	11.59	9.76	9.46	9.50	9.18
NEWFOUNDLAND	14.16	16.38	17.36	17.18	15.91	15.60	15.14	14.31
PRINCE EDWARD ISLAND	11.12	13.27	13.42	13.52	12.64	12.81	12.75	12.23
NOVA SCOTIA	10.17	13.56	13.42	12.93	11.63	11.34	11.40	11.06
NEW BRUNSWICK	11.84	14.33	13.13	13.23	13.98	13.77	13.60	13.24
QUEBEC	10.41	14.19	14.48	14.06	12.68	12.36	12.29	11.84
ONTARIO	6.50	9.30	11.03	11.02	8.50	8.45	8.43	8.10
MANITOBA	6.08	7.76	8.19	8.08	6.30	6.50	6.53	6.18
SASKATCHEWAN	4.53	9.86	6.27	6.48	5.55	5.45	5.64	5.18
ALBERTA	3.82	7.11	7.81	8.02	5.17	5.23	5.47	6.43
BRITISH COLUMBIA	6.72	12.02	12.97	11.77	9.48	9.45	9.56	9.35

Table 18 (cont'd.)

EMPLOYMENT (THOUSANDS)		1988	1990	1991	1992	1993	1994	1995
CANADA		12224	12619	12789	12927	13218	13435	13639
NEWFOUNDLAND		228	236	241	246	252	258	263
PRINCE EDWARD ISLAND		51	52	53	53	54	55	56
NOVA SCOTIA		370	382	388	395	404	412	420
NEW BRUNSWICK		286	306	309	314	322	328	334
QUEBEC		2867	2841	2837	2878	3028	3081	3091
ONTARIO		4676	4816	4863	4914	5013	5081	5143
MANITOA		509	522	525	529	539	545	550
SASKATCHEWAN		492	510	516	524	536	547	557
ALBERTA		1280	1238	1264	1296	1446	1485	1524
BRITISH COLUMBIA		1456	1515	1544	1577	1624	1663	1701

UNEMPLOYMENT RATES
(PER CENT)

UNEMPLOYMENT RATES (PER CENT)		1988	1990	1991	1992	1993	1994	1995
CANADA		9.07	8.02	7.68	7.77	7.28	7.14	6.96
NEWFOUNDLAND		13.87	13.22	12.65	12.53	12.27	12.07	11.80
PRINCE EDWARD ISLAND		12.20	11.72	11.40	11.78	11.54	11.50	11.34
NOVA SCOTIA		10.91	10.29	9.80	9.73	9.54	9.40	9.30
NEW BRUNSWICK		13.14	12.19	11.81	11.83	11.33	11.10	10.78
QUEBEC		11.70	10.78	10.30	10.23	9.76	9.57	9.30
ONTARIO		7.99	6.69	6.45	6.42	6.10	6.05	6.07
MANITOA		5.37	5.52	5.11	5.11	5.18	5.17	5.18
SASKATCHEWAN		6.64	5.81	5.16	4.26	4.43	4.08	3.85
ALBERTA		6.64	5.81	5.16	5.12	4.43	4.08	3.85
BRITISH COLUMBIA		9.36	8.25	8.01	8.21	7.74	7.56	7.37

Table 18 (cont'd.)

EMPLOYMENT

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988
CANADA	2.59	-2.19	0.30	2.41	4.36	2.52	1.91	1.80
NEWFOUNDLAND	1.38	-2.05	1.42	3.81	5.05	2.98	3.49	2.35
PRINCE EDWARD ISLAND	-0.53	-4.77	0.06	1.52	2.76	2.06	1.88	1.39
NOVA SCOTIA	0.83	-8.40	1.13	3.03	4.23	2.98	2.08	1.84
NEW BRUNSWICK	2.04	-2.06	0.47	2.31	4.34	2.48	2.04	1.65
QUEBEC	0.65	-4.52	0.20	1.86	3.34	2.13	1.48	1.10
ONTARIO	2.93	-2.16	-0.32	2.33	4.43	2.46	1.84	1.82
MANITоба	0.74	-1.41	0.06	1.74	3.53	2.10	1.39	1.14
SASKATCHEWAN	2.04	-1.43	0.64	1.78	4.04	2.23	1.80	2.40
ALBERTA	5.97	-2.63	1.13	2.95	5.67	3.00	2.50	1.84
BRITISH COLUMBIA	4.71	-5.28	1.37	4.02	5.61	3.17	2.86	2.29

UNEMPLOYMENT RATES

(PER CENT)
 (YEAR-TO-YEAR CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988
CANADA	0.09	3.23	0.92	-0.17	-1.83	-0.30	0.04	-0.32
NEWFOUNDLAND	0.62	2.22	0.99	-0.18	-1.27	-0.31	-0.46	-0.82
PRINCE EDWARD ISLAND	0.29	2.16	0.16	0.10	-0.88	0.16	-0.06	-0.51
NOVA SCOTIA	0.40	3.39	-0.10	-0.54	-1.30	-0.29	0.05	-0.25
NEW BRUNSWICK	0.45	2.89	0.80	0.13	-1.29	-0.19	-0.17	-0.36
QUEBEC	0.59	3.18	0.29	-0.39	-1.41	-0.31	-0.07	-0.36
ONTARIO	-0.27	2.70	1.73	0.03	-2.16	-0.45	-0.02	-0.34
MANITоба	0.87	1.69	0.42	-0.10	-1.71	0.14	0.03	-0.34
SASKATCHEWAN	0.21	1.33	0.21	0.31	-0.92	-0.10	0.18	-0.46
ALBERTA	0.13	3.29	0.89	0.22	-1.85	-0.24	0.54	-0.05
BRITISH COLUMBIA	-0.04	5.30	0.55	-0.81	-3.29	-0.03	0.13	-0.23

Table 18 (cont'd.)

EMPLOYMENT
(YEAR-OVER-YEAR PER-CENT CHANGE)

	1989	1990	1991	1992	1993	1994	1995
CANADA	1.50	3.23	1.11	1.21	2.26	1.84	1.51
NEWFOUNDLAND	2.99	3.51	1.50	2.17	2.57	2.28	1.96
PRINCE EDWARD ISLAND	1.29	2.54	0.82	1.13	2.14	1.59	1.47
NOVA SCOTIA	1.81	3.23	1.51	1.80	2.23	2.10	1.97
NEW BRUNSWICK	1.66	3.25	1.23	1.52	2.47	1.88	1.81
QUEBEC	0.89	2.59	0.53	0.72	1.69	1.07	1.00
ONTARIO	1.30	2.89	0.88	1.05	2.02	1.36	1.20
MANITOBA	1.03	2.34	0.54	0.78	1.78	1.15	1.02
SASKATCHEWAN	1.76	3.47	1.31	1.59	2.25	1.97	1.79
ALBERTA	2.20	4.28	1.81	2.35	2.61	2.66	2.62
BRITISH COLUMBIA	2.26	4.15	1.86	2.14	2.96	2.44	2.27

UNEMPLOYMENT RATES
(PER CENT)

(YEAR-TO-YEAR CHANGE)

	1989	1990	1991	1992	1993	1994	1995
CANADA	-0.11	-1.08	-0.23	0.08	-0.48	-0.14	-0.16
NEWFOUNDLAND	-0.44	-0.68	-0.57	-0.12	-0.26	-0.21	-0.27
PRINCE EDWARD ISLAND	-0.03	-0.48	-0.32	0.39	-0.24	-0.04	-0.16
NOVA SCOTIA	-0.14	-0.62	-0.49	-0.06	-0.20	-0.14	-0.20
NEW BRUNSWICK	-0.10	-0.95	-0.38	0.02	-0.48	-0.23	-0.32
QUEBEC	-0.24	-0.91	-0.48	-0.07	-0.46	-0.19	-0.28
ONTARIO	-0.15	-1.25	-0.24	0.17	-0.52	-0.05	0.01
MANITOBA	0.18	-0.75	-0.06	0.95	-0.33	0.00	-0.06
SASKATCHEWAN	-0.11	-0.91	-0.41	0.12	-0.12	-0.08	-0.17
ALBERTA	0.21	-1.13	-0.34	-0.04	-0.71	-0.24	-0.43
BRITISH COLUMBIA	0.02	-1.11	-0.24	0.19	-0.47	-0.18	-0.19

Results by Province

decline of over 10 per cent in RDP. (Remember that in the case of a small province like Prince Edward Island, these results are more suspect.)

- RDP recovers to pre-1982 levels after 1986.
 - The most affected sectors are agriculture, fishing and construction.
 - Steady growth is projected during the rest of the 1980s and the 1990s. No immediate rebound is expected however.
- Employment grows moderately, about as fast as the labour force. As a result the unemployment rate changes little coming down from 13½ per cent to about 11½ per cent in 13 years.
- Per capita disposable income remains an almost constant 3/4 share of the national average throughout.

Nova Scotia experiences a severe recession with RDP falling 8¼ per cent in 1982, based on current employment figures. (Reconsideration of the output figures would suggest a less severe downturn in 1982 - and higher productivity - but perhaps less of a recovery in 1983, still leading as the present results do into the longer term.) However, development of Sable Island gas produces a fast recovery and strong employment growth.

- RDP
 - Strong growth is experienced in construction and utilities in the early years.
 - Mineral fuels production jumps in 1985-6 with Sable Island coming on stream.
 - Electrical products bounce back after a very poor 1982.
 - Chemical and petroleum products output grows very fast for the rest of the 1980s on the assumption of spinoffs from Sable Island (and Hibernia).
- Employment grows very fast in 1984 and 1985. The unemployment rate declines from 13½ per cent to just over 9 per cent by 1995 while remaining 2 percentage points above the national average.
- Real per capita disposable income rises from 80 to 85 per cent of the

The Ontario Economy 1982 - 1995

national average.

New Brunswick experiences a 4 1/3 per cent decline in RDP in 1982 from which it recovers steadily.

- RDP shows no dramatic winners or losers except perhaps the pulp and paper industry, which performs very well.
- Employment grows moderately so that the unemployment rate falls from 15 plus per cent to less than 11 per cent.
- Real disposable income remains 3/4 of the national average throughout.

Quebec experiences a very serious decline - over 9 per cent - in RDP in 1982, with a 14 per cent decline in the goods-producing sector. Again, this may be an overreaction to poor employment figures currently available. Some modest relative productivity gains could mean a smaller decline in output for the (known) decline in employment. As with Nova Scotia, probably both the extent of the 1982 decline and of the 1983 recovery are too large.

- Growth in manufacturing RDP remains weak, experiencing less than one per cent growth per annum in the 1990s.
 - . Textiles and clothing in particular experience severe problems in the 1990s.
 - . The food and beverage sector grows slowly.
 - . Construction remains very weak.
 - . Electric power and gas utilities grow quickly as the James Bay development continues and the gas pipeline extends natural gas use in the province.
- Employment grows quite slowly; however, the labour force grows even more slowly. As a result, the unemployment rate falls from over 14 per cent to over 9 per cent in 1995. Still, the unemployment rate remains well over 2 percentage points above the national average.
- Real per capita disposable income remains about 91 per cent of the national average.

Ontario manufacturing suffers a 7½ per cent decline in 1982 though a less

than 3 per cent decline in total RDP.

- Sectors hard hit include wood and furniture, machinery and other transportation equipment, electrical products and non-metallic mineral products, all reflecting weak consumer and investment spending during the recession.
- Construction never does recover strongly.
- General goods-producing weakness is anticipated in the early to mid-1990s.
- Employment growth is strongest during the recovery period to 1985. The unemployment rate drops from 11 per cent to 6 per cent, approximately 1 percentage point below the national average.
- Real per capita disposable income ranges from 8½ per cent above the national average in 1982 to less than 1 per cent above by 1995. Average annual growth in real disposable income is the slowest in the country, but it is important to remember that, even so, the level of Ontario income remains above the national average.

Manitoba takes the recession hardest in the primary sector - particularly mining. The total decline in RDP in 1982 is expected to be just over 6 per cent. Recovery is relatively swift and strong.

- RDP falls most in the electrical products and non-metallic minerals sectors following a strong 1981. These sectors rebound quickly.
- Trade also contracts seriously in 1982 on top of a poor 1981.
- The government sector grows very slowly.
- The 1990s expose serious problems in specific manufacturing sectors, e.g., food and beverages; however, services look relatively good - as in the country as a whole.
- Employment and the labour force grow slowly except for a sharp upturn in employment in 1985. The unemployment rate falls from about 8 per cent to 5 3/4 per cent, well below the national average throughout.
- Real per capita disposable income remains essentially at 95 per cent of the national average over the outlook.

The Ontario Economy 1982 - 1995

Saskatchewan experiences a very fast recovery following one of the milder recessionary impacts in the country in 1982.

- RDP experiences a broadly based recovery. Even manufacturing does well relative to most provinces.
- Employment growth is very steady.
- Real per capita disposable income rises from 3½ per cent below to almost 9 per cent above the national average. Resources, energy, and agriculture all contribute to this result.

Alberta experiences only a 3 1/3 per cent setback in 1982, reflecting in part a 15 per cent decline in construction.

- . Manufacturing RDP also declines 5 1/3 per cent but bounces back quickly.
 - . The important manufacturing sectors of food, primary metals and metal fabricating, and chemical and petrochemical products recover pre-recession levels during 1984 if not 1983.
 - . Construction recovers by 1986, and then continues to grow. (A major danger to Alberta is a more severe setback to general construction than that projected here.)
 - . Utilities provide an important source of growth through the 1990s.
 - . Mineral fuels output varies around the 1981 level until 1993 when a major new synthetic facility comes on stream.
- Employment grows robustly after 1983. The unemployment rate falls from 8 per cent to a more usual 3 plus per cent.
 - Real per capita disposable income climbs from 12 per cent to 22 per cent above the national average.

British Columbia's RDP tumbles 4 per cent in 1982; however, the recovery is very strong.

- . The pulp and paper industry recovers well.
- . Wood and furniture output recovers more slowly until North American construction picks up.
- . British Columbia construction recovers well from a 10 per cent

Results by Province

drop. Port development projects help.

- Electric power and gas utilities experience strong growth.
- The service sector appears very strong.
- Mineral fuels production jumps in 1984 and continues to grow in most years thereafter.

- Employment grows very fast. Unemployment drops from 12½ per cent to 7½ per cent.
- Real per capita income remains 10 per cent above the national average.

The Territories: The results for the Territories must be considered directionally indicative only. The results do suggest, however, that a very mild recession is experienced in the Territories.

- RDP

- Construction output declines 7 plus per cent in 1982, but grows briskly thereafter.
- Transportation and storage services also decline about 7 per cent in 1982, but recover quickly.
- While difficult to measure exactly, Beaufort development in the 1980s and 1990s would appear to make a major impact on growth in the Territories.

7
Appendix — tables

Appendix Table 1
SUMMARY OF PROJECTION

(LEVELS)

	1981	1982	1983	1984	1985	1986	1987	1988
GROSS NATIONAL PRODUCT	325801	345982	366135	441871	512928	581140	653820	736414
IMPLICIT PRICE DEFLATOR FOR GNP (1871=1.0)	2.45	2.72	2.97	3.26	3.50	3.74	4.03	4.33
REAL GROSS NATIONAL PRODUCT	134070	137035	129647	138420	142321	147318	150415	155688
EXPENDITURE ON PERSONAL CONSUMPTION	83374	81175	81784	85278	89413	93142	96785	101011
EXPENDITURE ON GOVERNMENT	26771	28229	27084	27596	27522	28318	28684	29151
INVESTMENT EXPENDITURE	27824	23970	23142	24378	26813	27377	27508	28078
RESIDENTIAL CONSTRUCTION	4897	4802	4443	5064	5786	5718	5696	5853
NON-RESIDENTIAL AND MACH. & EQUIP.	22827	19468	18707	19315	21027	21688	21513	22225
EXPORTS	32548	32620	33181	34230	35966	37431	38832	40048
IMPORTS	38733	34870	35347	36488	38467	39886	41674	42922
CAPACITY UTILIZATION RATE	0.78	0.70	0.75	0.74	0.78	0.77	0.76	0.76
UNEMPLOYMENT RATE	7.61	10.84	11.78	11.58	9.76	9.46	8.80	9.18
EMPLOYMENT (THOUSANDS)	10833	10884	10616	10873	11248	11631	11883	12043
NARROWLY DEFINED MONEY SUPPLY, M1	25087	28070	27373	29188	30818	32460	33640	37719
FINANCIAL CO. 90-DAY PAPER RATE	17.85	15.20	17.80	17.37	18.01	15.63	15.12	14.17
INDUSTRIAL BOND RATE	16.48	16.35	17.85	15.81	14.87	14.71	14.89	14.32
CONSUMER PRICE INDEX (1971=1.00)	2.37	2.83	2.88	3.14	3.48	3.81	4.21	4.60
AVERAGE ANNUAL WAGES AND SALARIES (\$ '000)	14.789	16.231	17.683	19.201	20.828	22.938	25.248	27.737
SEXP AT FACTOR COST PER EMPLOYEE (\$'1 '000)	10.848	10.747	11.007	11.193	11.235	11.341	11.378	11.553
EXCHANGE RATE (US \$/CAN \$)	0.834	0.808	0.781	0.794	0.802	0.802	0.805	0.812
TERMS OF TRADE (PX/PW) (1871=1.0)	1.04	1.02	1.03	1.02	1.04	1.03	1.04	1.04
BALANCE ON CURRENT ACCOUNT	-6876	-4472	-4838	-8785	-8164	-6338	-6776	-6383
CHANGE IN FOREIGN RESERVES	1426	-3000	0	0	0	0	0	0
CONSOLIDATED GOVERNMENT BALANCE	-2223	-5083	-25337	-28064	-19182	-17186	-17223	-15804
PERSONAL SAVINGS RATE (%)	11.83	12.18	12.99	13.01	11.80	10.55	9.87	9.34
MINERAL AFTER-TAX CORPORATE PROFITS	21819	19544	28319	39381	43956	51854	58811	67282
REAL PERSONAL DISPOSABLE INCOME	97685	86867	97867	100784	104080	106811	108441	112011

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 1 (cont'd.)
SUMMARY OF PROJECTION

(LEVELS)

	1988	1990	1991	1992	1993	1994	1995
GROSS NATIONAL PRODUCT	821634	934031	1044016	1158062	1286123	1438895	1626595
IMPLICIT PRICE DEFLATOR FOR GNP (1975=1.0)	5.13	5.57	6.07	6.56	7.16	7.81	8.54
REAL GROSS NATIONAL PRODUCT	160256	167527	172043	176089	180820	184128	186430
EXPENDITURE ON PERSONAL CONSUMPTION	102254	106924	109410	111842	114876	117411	122182
EXPENDITURE BY GOVERNMENTS	29651	29999	30414	30857	31387	31870	32831
INVESTMENT EXPENDITURE	29266	32311	34218	35680	37190	38480	40583
RESIDENTIAL CONSTRUCTION	6046	6116	6095	6213	6383	6489	6386
NON-RESIDENTIAL AND MACH. & EQUIP.	23220	26196	28123	29467	30807	31992	34187
EXPORTS	41620	43984	45920	47844	49760	51670	53580
IMPORTS	44827	46641	48490	50314	52126	53952	57857
CAPACITY UTILIZATION RATE	0.76	0.77	0.77	0.77	0.77	0.77	0.78
UNEMPLOYMENT RATE	9.07	8.02	7.68	7.77	7.26	7.14	6.98
EMPLOYMENT (THOUSANDS)	12224	12619	12759	12827	13219	13426	13629
NARROWLY DEFINED MONEY SUPPLY - M1	38891	42063	44072	46876	49281	52483	55886
FINANCE CO. 90-DAY PAPER RATE	14.03	13.59	13.44	13.32	13.12	12.84	12.59
INDUSTRIAL BOND RATE	14.87	14.79	14.71	14.59	14.31	14.11	13.79
CONSUMER PRICE INDEX (1971=1.00)	9.02	9.50	9.03	8.80	7.21	7.88	8.57
AVERAGE ANNUAL WAGES AND SALARIES (\$ '000)	30.981	33.203	36.410	38.893	43.456	47.947	52.901
GNP AT FACTOR COST PER EMPLOYEE (\$'1 '000)	11.725	11.882	12.054	12.168	12.312	12.310	12.405
ECONOMIC RATE (US \$/CAN \$)	0.810	0.808	0.809	0.798	0.797	0.810	0.833
TRADING PARTNERSHIP (1971=1.0)	1.00	1.00	1.00	1.00	1.00	1.00	1.00
BALANCE ON CURRENT ACCOUNT	-3818	-7169	-10012	-10182	-8239	-6194	-2645
CHANGE IN FOREIGN RESERVES	0	0	0	0	0	0	0
CONSOLIDATED GOVERNMENT BALANCE	-18276	-12618	-11306	-8033	-8223	-7860	-10618
PERSONAL SAVINGS RATE (%)	8.41	9.78	9.59	8.71	10.34	10.21	10.70
MINERAL AFTER-TAX CORPORATE PROFITS	72514	87197	97815	106129	118598	129879	150049
REAL PERSONAL DISPOSABLE INCOME	116302	120801	123430	126021	130722	132820	138626

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 1 (cont'd.)

SUMMARY OF PROJECTIONS

(PERCENTAGE CHANGE; * INDICATES CHANGE IN LEVELS)

	1981	1982	1983	1984	1985	1986	1987	1988
GROSS NATIONAL PRODUCT	13.33	5.22	11.70	14.24	16.00	13.38	12.47	12.67
IMPLICIT PRICE DEFATOR FOR GNP	10.08	11.09	9.25	8.87	10.36	9.59	9.86	9.15
REAL GROSS NATIONAL PRODUCT	2.00	-8.25	2.29	4.31	5.10	3.51	2.28	3.23
EXPENDITURE ON PERSONAL CONSUMPTION	1.23	-2.84	0.77	4.26	4.88	4.17	3.91	3.64
EXPENDITURE BY GOVERNMENTS	1.23	0.83	0.46	1.86	1.18	1.42	1.23	1.60
INVESTMENT EXPENDITURE	5.86	-13.88	-3.41	5.30	9.98	2.10	-0.62	3.20
RESIDENTIAL CONSTRUCTION	1.44	1.11	1.27	13.23	14.26	-1.17	-0.28	2.78
NON-RESIDENTIAL AND MACH. & EQUIP.	5.81	-14.72	-3.91	3.25	8.87	3.01	-0.28	2.78
EXPORTS	1.44	0.22	1.66	2.18	5.16	4.01	3.74	3.13
IMPORTS	3.14	-5.62	1.85	2.13	5.37	3.63	4.48	3.00
CAPACITY UTILIZATION RATE *	-0.02	-0.10	0.05	-0.00	0.02	0.00	-0.01	0.00
UNEMPLOYMENT RATE *	0.09	3.23	0.92	-0.17	-1.83	-0.30	0.04	-0.32
EMPLOYMENT	2.38	-2.19	0.30	2.41	4.36	2.52	1.91	1.60
NARROWLY DEFINED MONEY SUPPLY, M1	2.46	4.00	5.00	6.87	5.89	7.37	7.16	5.83
FINANCE CO. 90-DAY PAPER RATE *	4.01	-2.67	2.40	-0.22	-2.37	0.68	-0.53	-0.99
INDUSTRIAL BOND RATE *	3.13	0.46	0.88	-2.21	-0.74	0.16	0.18	0.03
CONSUMER PRICE INDEX	12.48	11.18	8.46	10.10	9.98	10.20	10.28	9.31
AVERAGE ANNUAL WAGES AND SALARIES	9.88	8.68	8.95	8.58	9.05	9.55	10.07	9.86
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	1.40	-1.83	2.41	1.69	0.95	0.77	0.32	1.54
EXCHANGE RATE (US \$/CAN \$)	-2.50	-3.00	-2.06	0.28	0.96	0.00	0.20	0.89
TERMS OF TRADE (P/PPI)	-2.68	-1.86	0.97	-0.57	1.40	-0.66	1.07	0.28
BALANCE ON CURRENT ACCOUNT (\$ BILL) *	-4872	2103	-465	-1217	598	-1279	-340	353
CHANGE IN FOREIGN RESERVES (\$ BILL) *	2706	-3428	2000	0	0	0	0	0
CONSOLIDATED GOVERNMENT BALANCE (\$ BILL) *	3750	-18419	-4884	273	5872	2036	-67	1319
PERSONAL SAVINGS RATE (%) *	1.41	1.66	0.77	-0.84	-1.11	-1.36	-0.88	-0.23
NOMINAL AFTER-TAX CORPORATE PROFITS	-14.85	-10.43	44.80	24.84	23.70	18.28	8.77	12.16
REAL PERSONAL DISPOSABLE INCOME	4.06	-1.05	1.27	2.85	3.27	2.43	2.85	3.28

Appendix Table 1 (cont'd.)
Summary of Production

(PERCENTAGE CHANGE; * INDICATES CHANGE IN LEVELS)

	1988	1989	1990	1991	1992	1993	1994	1995
GROSS NATIONAL PRODUCT	11.97	13.08	11.78	11.02	11.83	11.01	13.04	
IMPLICIT PRICE DEFLATOR FOR GNP	8.37	8.75	8.89	8.47	8.85	8.07	8.30	
REAL GROSS NATIONAL PRODUCT	2.84	4.34	2.70	2.35	2.74	1.77	3.42	
EXPENDITURE ON PERSONAL CONSUMPTION	2.83	3.86	2.30	2.04	2.71	2.21	4.08	
EXPENDITURE BY GOVERNMENTS	1.71	1.14	1.42	1.49	1.72	1.94	3.02	
INVESTMENT EXPENDITURE	4.23	10.41	5.80	4.27	4.23	3.47	5.48	
RESIDENTIAL CONSTRUCTION	3.28	1.16	-0.34	1.94	2.73	1.88	-1.42	
NON-RESIDENTIAL AND MACH. & EQUIP.	4.48	12.81	7.36	4.78	4.98	3.85	6.85	
EXPORTS	4.07	4.81	3.43	4.70	4.28	3.34	1.87	
IMPORTS	3.87	4.51	3.85	4.25	4.40	3.34	4.15	
CAPACITY UTILIZATION RATE *	0.00	0.01	0.00	-0.00	-0.00	-0.00	0.01	
UNEMPLOYMENT RATE *	-0.11	-1.05	-0.33	0.08	-0.48	-0.14	-0.16	
EMPLOYMENT	1.30	3.23	1.11	1.31	2.28	1.84	1.51	
NARROWLY DEFINED MONEY SUPPLY, M1	5.76	5.48	4.77	5.68	5.81	6.52	6.46	
FINANCE CO. 30-DAY PAPER RATE *	-0.14	-0.44	-0.15	-0.13	-0.20	-0.18	-0.36	
INDUSTRIAL BOND RATE *	-0.08	-0.09	-0.08	-0.16	-0.24	-0.21	-0.22	
CONSUMER PRICE INDEX	9.18	9.45	9.76	9.40	9.32	9.27	8.76	
AVERAGE ANNUAL WAGES AND SALARIES	9.43	9.40	9.68	9.46	9.54	9.83	10.14	
PRODUCTIVITY CHANGE (GDP/EMPLOYEE)	1.46	1.34	1.45	0.85	0.37	-0.02	1.60	
EXCHANGE RATE (US \$/CAN \$)	-0.24	-0.36	-0.64	-0.85	0.26	1.82	1.84	
TERMS OF TRADE (PA/PM)	0.00	-0.04	-0.46	-0.85	1.01	1.82	2.75	
BALANCE ON CURRENT ACCOUNT (\$ BILL) *	-32.1	-250	-2847	-181	3859	44	2347	
CHANGE IN FOREIGN RESERVES (\$ BILL) *	0	0	0	0	0	0	0	
CONSOLIDATED GOVERNMENT BALANCE (\$ BILL) *	-2372	488	3313	1872	916	1242	-2836	
PERSONAL SAVINGS RATE (%) *	0.07	0.37	-0.20	0.12	0.63	-0.13	0.49	
NET FIDUCIARY INCOME	14.41	20.19	12.23	7.46	9.82	9.02	19.12	
REAL PERSONAL DISPOSABLE INCOME	2.81	3.87	2.18	2.10	3.34	1.99	4.53	

Appendix Table 2

GROSS NATIONAL PRODUCT IN CONSTANT DOLLARS (BILLIONS)

	1980	1982	1983	1984	1985	1986	1987	1988
PERSONAL CONSUMPTION EXPENDITURES, TOTAL	83274	81173	81784	83279	86413	83142	88763	100011
DURABLE GOODS	(1.73)	(-2.44)	(0.77)	(4.76)	(4.85)	(4.17)	(3.81)	(1.84)
NON-DURABLE GOODS	14347	12647	12907	12400	14939	15852	16903	17524
GOVERNMENT CURRENT	(0.53)	(-12.25)	(1.29)	(6.29)	(8.50)	(7.73)	(7.93)	(5.45)
GROSS CAPITAL FORMATION	33237	32309	32464	32882	34376	34636	34938	35368
	(2.04)	(0.93)	(0.47)	(2.21)	(1.22)	(1.44)	(1.34)	(1.88)
	2844	2984	2907	2812	2646	2683	2740	2787
	(-1.01)	(1.13)	(0.43)	(0.34)	(0.93)	(1.29)	(1.26)	(1.27)
BUSINESS GROSS FIXED CAPITAL FORMATION, TOTAL	27824	23970	23152	24278	26813	27377	27208	28078
RESIDENTIAL CONSTRUCTION	(8.89)	(-12.85)	(-3.41)	(5.20)	(8.89)	(2.10)	(-0.62)	(3.20)
NON-RESIDENTIAL CONSTRUCTION	4897	4802	4449	5054	5785	5716	5888	5853
	(1.44)	(-8.81)	(-1.27)	(13.83)	(14.26)	(-1.17)	(-0.38)	(2.76)
MACHINERY AND EQUIPMENT	10753	8507	8677	8386	10753	10633	10110	10471
	(8.43)	(-14.36)	(-3.56)	(5.84)	(14.48)	(-0.53)	(-5.48)	(3.97)
	12074	10281	9821	8919	10374	10963	11403	11759
	(5.60)	(-18.01)	(-4.20)	(0.80)	(3.98)	(6.70)	(4.03)	(3.08)
VALUE OF PHYSICAL CHANGE IN BUS. INVENTORIES	773	-2728	262	671	842	1200	1337	1384
	(1934)	(-2807)	(3122)	(279)	(272)	(316)	(28)	(47)
EXPORTS, TOTAL	32848	32820	29181	24220	23886	27431	28822	40048
MERCHANDISE	(1.44)	(0.22)	(1.65)	(2.15)	(5.16)	(4.01)	(3.74)	(3.13)
SERVICES	27077	27320	27854	28632	30193	31270	32708	33880
	(4.08)	(0.80)	(1.96)	(3.27)	(3.37)	(3.80)	(4.28)	(3.82)
	5471	5300	5208	5565	5784	6080	6127	6158
	(-8.80)	(-2.12)	(0.11)	(4.80)	(4.08)	(4.80)	(1.10)	(0.51)
IMPORTS, TOTAL	36723	34870	26347	26458	28487	28885	41674	41922
MERCHANDISE	(3.14)	(-9.52)	(1.89)	(3.12)	(5.57)	(3.63)	(4.48)	(3.00)
SERVICES	23904	22162	22383	22311	24932	29341	28070	28080
	(1.36)	(-7.55)	(0.30)	(4.15)	(6.96)	(8.83)	(6.96)	(3.33)
	12729	12488	12965	13145	13555	13544	12604	13842
	(6.87)	(-1.87)	(3.82)	(1.39)	(3.12)	(-0.08)	(0.46)	(1.80)
STATISTICAL DISCREPANCY	-488	-267	-268	-269	-268	-268	-268	-268
	(-262)	(218)	(0)	(0)	(0)	(0)	(0)	(0)
GROSS NATIONAL PRODUCT	134070	137038	128847	138430	142231	147315	150315	159609
	(3.00)	(-8.25)	(2.28)	(4.21)	(5.10)	(3.91)	(2.38)	(3.22)

NOTE - PERCENT CHANGES (OR LEVELS CHANGES) IN PARENTHESES

Appendix Table 2 (cont'd.)

GROSS NATIONAL PRODUCT IN CONSTANT DOLLARS (MILLIONS)

	1985	1990	1991	1992	1993	1994	1995
PERSONAL CONSUMPTION EXPENDITURES, TOTAL	102254	108824	109810	111843	114876	117411	122162
	(2.83)	(2.93)	(2.94)	(2.94)	(2.71)	(2.21)	(4.08)
DURABLE GOODS	18288	19048	19444	20128	20863	21971	22840
	(2.38)	(4.17)	(3.19)	(3.44)	(3.78)	(3.29)	(5.15)
CONSUMER DURABLES	25818	26107	25485	24883	27268	27807	28724
	(1.78)	(1.13)	(1.43)	(1.50)	(1.61)	(1.61)	(3.20)
NON-DURABLES	28228	28822	29238	29755	40118	40632	41007
	(1.26)	(1.24)	(1.21)	(1.16)	(1.11)	(1.10)	(1.10)
GROSS CAPITAL FORMATION	28266	32211	34218	35680	37180	38480	40583
	(4.23)	(10.41)	(8.80)	(4.27)	(4.23)	(3.47)	(5.46)
BUSINESS GOODS FIXED CAPITAL FORMATION, TOTAL	28266	32211	34218	35680	37180	38480	40583
	(4.23)	(10.41)	(8.80)	(4.27)	(4.23)	(3.47)	(5.46)
RESIDENTIAL CONSTRUCTION	3288	8116	6095	6213	6383	6488	6388
	(3.28)	(1.16)	(-0.34)	(1.94)	(2.73)	(1.44)	(-1.42)
NON-RESIDENTIAL CONSTRUCTION	11213	13423	14378	15402	16020	16308	17814
	(7.08)	(19.70)	(8.61)	(5.63)	(4.08)	(2.94)	(8.54)
MACHINERY AND EQUIPMENT	12007	12772	12945	14048	14777	15487	16372
	(2.19)	(6.28)	(6.04)	(8.84)	(8.08)	(4.80)	(5.07)
VALUE OF PHYSICAL CHANGE IN BUS. INVENTORIES	1300	1318	1344	1188	1047	987	774
	(1.9)	(2.18)	(-1.74)	(-1.88)	(-1.46)	(-80)	(-1.88)
EXPORTS, TOTAL	41680	43684	45181	47308	48434	51220	52160
	(4.07)	(4.81)	(3.43)	(4.70)	(4.48)	(3.63)	(1.87)
MERCHANDISE	38420	37215	38583	40540	42585	44287	45248
	(4.51)	(3.73)	(3.81)	(5.18)	(4.78)	(4.02)	(2.14)
SERVICES	6261	6469	6598	6768	6849	6933	6912
	(1.06)	(3.33)	(1.23)	(1.80)	(2.60)	(1.23)	(0.18)
IMPORTS, TOTAL	44837	46841	48458	50814	52736	55552	57857
	(3.87)	(4.51)	(3.88)	(4.28)	(4.40)	(5.34)	(4.15)
MERCHANDISE	30385	32040	33880	35651	37887	40088	42888
	(4.56)	(5.44)	(5.12)	(5.88)	(6.22)	(7.18)	(5.91)
SERVICES	14242	14801	14578	15163	14849	15464	14969
	(2.74)	(3.32)	(1.19)	(0.80)	(0.00)	(0.84)	(-0.83)
STATISTICAL DISCREPANCY	-268	-268	-268	-268	-268	-268	-268
	(0)	(0)	(0)	(0)	(0)	(0)	(0)
GROSS NATIONAL PRODUCT	102254	108824	109810	111843	114876	117411	122162
	(2.83)	(4.84)	(2.70)	(2.36)	(2.74)	(1.77)	(3.43)

Appendix Table 3

IMPLICIT PRICE INDEXES BY GROSS NATIONAL PRODUCT (1971=1.0)

	1981	1982	1983	1984	1985	1986	1987	1988
PERSONAL CONSUMPTION EXPENDITURES, TOTAL								
DURABLE GOODS	2.28 (11.12)	2.54 (11.32)	2.74 (11.80)	3.00 (12.43)	3.21 (13.02)	3.42 (13.82)	3.67 (14.32)	3.92 (15.02)
NON-DURABLE GOODS	1.84 (8.87)	2.03 (9.08)	2.18 (9.40)	2.35 (9.85)	2.54 (10.35)	2.73 (10.85)	2.92 (11.35)	3.11 (11.85)
SERVICES	2.89 (12.08)	3.21 (13.76)	3.59 (15.35)	3.98 (16.93)	4.37 (18.51)	4.76 (19.09)	5.15 (20.67)	5.54 (21.25)
GROSS FIXED CAPITAL FORMATION	2.12 (11.40)	2.81 (11.73)	3.02 (12.47)	3.28 (13.21)	3.54 (13.95)	3.80 (14.69)	4.06 (15.43)	4.32 (16.17)
BUSINESS GROSS FIXED CAPITAL FORMATION, TOTAL	2.38 (11.93)	2.88 (12.51)	3.13 (13.25)	3.48 (13.99)	3.83 (14.73)	4.18 (15.47)	4.53 (16.21)	4.88 (16.95)
RESIDENTIAL CONSTRUCTION	3.23 (14.78)	3.72 (15.47)	4.08 (16.21)	4.49 (16.95)	4.90 (17.69)	5.31 (18.43)	5.72 (19.17)	6.13 (19.91)
NON-RESIDENTIAL CONSTRUCTION	2.45 (10.83)	2.71 (10.36)	2.91 (10.82)	3.16 (11.28)	3.41 (11.74)	3.66 (12.20)	3.91 (12.66)	4.16 (13.12)
MACHINERY AND EQUIPMENT	2.26 (10.15)	2.87 (12.03)	3.09 (12.86)	3.32 (13.69)	3.55 (14.52)	3.78 (15.35)	4.01 (16.18)	4.24 (17.01)
EXPENDITURES, TOTAL	2.04 (8.18)	2.31 (8.61)	2.67 (9.03)	3.03 (9.45)	3.39 (9.87)	3.75 (10.29)	4.11 (10.71)	4.47 (11.13)
MERCHANDISE	3.11 (14.78)	3.37 (15.47)	3.75 (16.21)	4.17 (16.95)	4.59 (17.69)	5.01 (18.43)	5.43 (19.17)	5.85 (19.91)
SERVICES	2.71 (10.83)	3.02 (11.28)	3.28 (11.74)	3.53 (12.20)	3.78 (12.66)	4.03 (13.12)	4.28 (13.58)	4.53 (14.04)
IMPORTS, TOTAL	2.81 (11.40)	3.24 (13.76)	3.57 (15.35)	3.98 (16.93)	4.39 (18.51)	4.80 (19.09)	5.21 (20.67)	5.62 (21.25)
MERCHANDISE	3.21 (14.78)	3.58 (15.47)	3.92 (16.21)	4.30 (16.95)	4.68 (17.69)	5.06 (18.43)	5.44 (19.17)	5.82 (19.91)
SERVICES	2.26 (10.15)	2.87 (12.03)	3.09 (12.86)	3.32 (13.69)	3.55 (14.52)	3.78 (15.35)	4.01 (16.18)	4.24 (17.01)
GROSS NATIONAL PRODUCT	2.45 (10.08)	2.72 (11.09)	2.97 (12.20)	3.25 (13.31)	3.54 (14.42)	3.83 (15.53)	4.12 (16.64)	4.41 (17.75)

NOTE - PERCENTAGE CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table 3 (cont'd.)

IMPLICIT PRICE INDEXES OF GROSS NATIONAL PRODUCT (1971=1.0)

	1989	1990	1991	1992	1993	1994	1995
PERSONAL CONSUMPTION EXPENDITURES, TOTAL	6.57 (8.15)	5.08 (8.40)	9.50 (8.71)	9.98 (8.32)	8.47 (8.52)	7.01 (8.40)	7.97 (8.40)
DURABLE GOODS	3.53 (8.43)	3.94 (8.62)	4.28 (8.59)	4.53 (8.21)	5.02 (8.56)	5.47 (8.83)	5.90 (8.83)
GOVERNMENT CURRENT	6.01 (8.61)	6.95 (9.04)	7.12 (8.75)	7.79 (8.80)	8.42 (8.68)	9.17 (8.82)	9.90 (8.82)
GROSS FIXED CAPITAL FORMATION	5.08 (7.72)	5.45 (8.00)	5.94 (8.87)	6.42 (7.80)	6.92 (7.82)	7.51 (8.51)	8.19 (9.02)
BUSINESS GROSS FIXED CAPITAL FORMATION, TOTAL	5.71 (-13.84)	6.21 (8.80)	6.80 (8.28)	7.37 (8.47)	7.98 (8.02)	8.55 (8.61)	9.44 (9.18)
RESIDENTIAL CONSTRUCTION	7.64 (9.04)	8.37 (8.97)	9.23 (10.30)	10.07 (9.09)	10.98 (8.01)	12.17 (10.89)	13.59 (11.73)
NON-RESIDENTIAL CONSTRUCTION	4.99 (7.84)	5.47 (8.62)	5.98 (9.38)	6.43 (7.31)	6.82 (6.21)	7.22 (5.76)	7.89 (8.71)
MACHINERY AND EQUIPMENT	5.40 (9.45)	5.95 (10.31)	6.57 (10.41)	7.22 (9.90)	7.80 (9.44)	8.70 (10.11)	9.57 (10.01)
EXPORTS, TOTAL	6.89 (8.17)	7.94 (8.91)	8.23 (9.17)	8.94 (8.66)	9.70 (8.54)	10.51 (8.31)	11.39 (8.28)
MERCHANDISE	7.08 (9.08)	7.73 (8.42)	8.42 (9.01)	9.13 (8.46)	9.80 (8.40)	10.70 (8.08)	11.58 (8.16)
SERVICES	5.81 (8.25)	6.46 (9.20)	7.10 (8.82)	7.77 (8.49)	8.48 (9.31)	9.30 (9.90)	10.18 (9.44)
IMPORTS, TOTAL	6.50 (9.15)	7.21 (8.95)	7.80 (9.34)	8.57 (8.82)	9.31 (7.45)	9.80 (6.30)	10.34 (5.44)
MERCHANDISE	7.23 (9.09)	7.80 (8.38)	8.61 (8.90)	9.32 (8.31)	9.93 (6.55)	10.50 (5.80)	10.98 (4.64)
SERVICES	5.22 (8.78)	5.70 (9.30)	6.23 (9.18)	6.79 (9.02)	7.28 (8.81)	7.82 (7.24)	8.48 (8.83)
GROSS NATIONAL PRODUCT	5.13 (8.37)	5.97 (8.75)	6.07 (8.85)	6.98 (8.47)	7.18 (8.85)	7.61 (9.07)	8.54 (9.20)

NOTE - PERCENTAGE CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table 4

BALANCE OF INTERNATIONAL PAYMENTS AND EXCHANGE RATE

	1981	1982	1983	1984	1985	1986	1987	1988
	BILLIONS OF DOLLARS							
EXPORTS OF GOODS	84153	91084	103342	110410	140060	164910	102483	219201
IMPORTS OF GOODS	(10,323)	(8,283)	(13,423)	(14,843)	(17,323)	(17,323)	(16,713)	(13,893)
BALANCE OF TRADE	73930	79817	87760	95567	122737	147587	85770	205308
	7171	12165	10512	17101	10481	20412	22221	28723
CAPITAL SERVICE RECEIPTS	1007	1826	3081	2287	2040	2668	2196	3469
CAPITAL SERVICE PAYMENTS	(-3,18)	(12,81)	(12,25)	(17,45)	(11,07)	(12,91)	(11,41)	(9,51)
BALANCE ON CAPITAL SERVICE	8989	10708	13287	15432	18447	17649	19472	21432
	(19,23)	(24,84)	(28,05)	(15,78)	(9,89)	(8,50)	(9,06)	(10,06)
EXPORTS OF OTHER SERVICES	-6862	-6078	-11205	-12676	-13803	-14281	-19276	-17223
IMPORTS OF OTHER SERVICES	13208	14164	15396	17927	20710	24149	27023	29827
BALANCE ON OTHER SERVICES	(-6,20)	(7,23)	(8,42)	(16,74)	(15,33)	(16,80)	(11,84)	(10,37)
	21026	22716	23084	28100	21843	28125	40781	45078
BALANCE ON SERVICES	(-20,46)	(-5,40)	(-10,47)	(11,80)	(13,24)	(13,45)	(12,79)	(10,50)
	-9227	-6951	-8728	-10172	-11128	-11686	-13759	-15241
NET TRANSFER RECEIPTS	1002	1549	1724	1603	1804	1820	1880	1888
CURRENT ACCOUNT BALANCE	-6978	-4772	-6538	-9755	-9169	-6538	-6776	-8192
NET LONG-TERM CAPITAL FLOWS	1340	-2372	-482	6028	4628	5083	4828	7520
NET SHORT-TERM CAPITAL FLOWS	4491	4840	5030	-282	518	1474	1838	-1128
NET SHORT-TERM CAPITAL FLOWS	310	0	0	0	0	0	0	0
CHANGE IN FOREIGN EXCHANGE RESERVES	1420	-2000	0	0	0	0	0	0
	DOLLARS							
EXCHANGE RATE: CANS/US\$	1.20	1.24	1.28	1.28	1.29	1.29	1.24	1.23
EXCHANGE RATE: NZD/US\$	1.23	1.28	1.33	1.35	1.34	1.34	1.34	1.30
	1981=1.0							
TERMS OF TRADE	1.04	1.02	1.03	1.03	1.04	1.03	1.04	1.04
TERMS OF TRADE	0.97	0.98	0.98	0.87	0.89	0.97	0.96	0.98
	(1981=1.0)							

NOTES - PERCENTAGE CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table 4 (cont'd.)

BALANCE OF INTERNATIONAL PAYMENTS AND EXCHANGE RATE

	1989	1990	1991	1992	1993	1994	1995
	MILLIONS OF DOLLARS						
EXPORTS OF GOODS	248906	267541	325383	371246	421669	474070	523743
IMPORTS OF GOODS	(14,01)	(15,06)	(13,18)	(14,10)	(12,58)	(12,43)	(10,48)
BALANCE OF TRADE	219544	253203	289947	332294	376084	425998	472117
CAPITAL SERVICE RECEIPTS	30381	34328	39536	38952	45605	48072	51627
CAPITAL SERVICE PAYMENTS	(9,22)	(8,59)	(7,89)	(7,74)	(9,77)	(8,87)	(8,52)
BALANCE ON CAPITAL SERVICE	29459	27769	32747	32053	34170	35956	35436
EXPORTS OF OTHER SERVICES	(13,24)	(14,18)	(11,18)	(8,86)	(8,61)	(4,08)	(-0,34)
IMPORTS OF OTHER SERVICES	(20447)	(23648)	(25316)	(27228)	(28993)	(30033)	(29554)
BALANCE ON OTHER SERVICES	33203	37622	42011	46989	52978	58864	64587
NET TRANSFER RECEIPTS	(11,28)	(13,31)	(11,67)	(11,85)	(12,53)	(11,32)	(8,89)
CURRENT ACCOUNT BALANCE	50048	55496	62920	68870	75638	81070	86322
NET LONG-TERM CAPITAL FLOWS	(11,47)	(10,84)	(12,13)	(10,57)	(9,87)	(8,70)	(8,32)
NET SHORT-TERM CAPITAL FLOWS	-16854	-17874	-20219	-21881	-22789	-24147	-25735
SORS AND ADJUSTMENT	1846	1631	1798	1775	1749	1724	1623
CHANGE IN FOREIGN EXCHANGE RESERVES	-6815	-7165	-10012	-10183	-8239	-6194	-3848
	7886	8218	6879	9244	8781	9438	8217
	-871	-1062	3134	890	-2842	-3243	-4368
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0

DOLLARS

EXCHANGE RATE: CANS/US\$
EXCHANGE RATE: WEIGHTED CANS/WORLD

1871=1.0

TERMS OF TRADE (PX/PW)
TERMS OF TRADE -GOODS- (PX/PWG)

NOTE - PERCENTAGE CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table 5

LABOUR MARKET VARIABLES

	1981	1982	1983	1984	1985	1986	1987	1988
THOUSANDS OF PERSONS								
POPULATION AGED 15 YEARS AND OVER	(18295	18571	18816	19051	19291	19528	19737	19938
LABOUR FORCE	(11833	11872	12031	12287	12573	12845	13083	13280
EMPLOYED	(10933	10584	10416	10472	11345	11631	11853	12043
EMPLOYED IN PRIVATE SECTOR	(2.95	(-2.18	(0.30	(2.41	(4.35	(2.52	(1.91	(1.63
GOVERNMENT CIVILIAN EMPLOYMENT	(9682	9316	9337	9570	10020	10281	10478	10640
GOVERNMENT CIVILIAN EMPLOYMENT	(2.80	(-3.78	(0.23	(3.48	(4.70	(2.61	(1.83	(1.98
CANADIAN ARMED FORCES	(1250	1268	1279	1302	1326	1350	1374	1399
CANADIAN ARMED FORCES	(1.00	(1.41	(0.87	(1.81	(1.81	(1.81	(1.81	(1.81
	80	80	80	80	80	80	80	80
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
THOUSANDS OF DOLLARS								
AVERAGE ANNUAL WAGE OF PRIVATE EMPLOYEES	14.799	16.231	17.683	19.201	20.938	22.838	25.248	27.737
AVERAGE ANNUAL WAGE OF ARMED FORCES	(8.48	(9.48	(10.55	(11.58	(12.65	(13.72	(14.80	(15.86
	23.200	25.431	27.883	30.528	33.485	36.847	40.608	44.623
	(11.51	(9.97	(9.83	(9.55	(9.72	(10.01	(10.21	(9.48
PER CENT								
UNEMPLOYMENT RATE	7.61	10.84	11.76	11.58	9.76	9.46	9.50	9.18
LABOUR FORCE PARTICIPATION RATES								
FEMALES 15-24 YEARS	63.27	61.59	62.69	60.60	61.62	62.30	62.87	63.17
FEMALES 25-54 YEARS	62.70	62.24	63.71	62.42	63.87	65.35	66.50	67.98
FEMALES 55 YEARS AND OVER	18.21	17.18	17.08	16.04	16.32	16.19	15.28	14.55
MALES 15-24 YEARS	72.48	72.24	74.85	73.13	73.90	74.61	75.38	76.25
MALES 25-54 YEARS	84.92	85.79	86.41	86.99	88.92	91.35	93.40	95.33
MALES 55 YEARS AND OVER	45.37	45.16	46.18	44.50	44.53	44.38	44.13	43.92
OVERALL RATE	64.68	63.92	63.94	64.54	65.17	65.79	66.25	66.81

NOTE - PERCENTAGE CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table 5 (cont'd.)

LABOUR MARKET VARIABLES

	1989	1990	1991	1992	1993	1994	1995
THOUSANDS OF PERSONS							
POPULATION AGED 15 YEARS AND OVER	20125	20018	20506	20697	20683	21046	21550
LABOUR FORCE	(0.84) (0.96) (0.92) (0.93) (0.90) (0.87) (0.87)						
EMPLOYED	13443	13719	13821	14015	14257	14468	14662
	(1.36) (2.05) (0.75) (1.40) (1.73) (1.48) (1.34)						
EMPLOYED IN PRIVATE SECTOR	12244	12638	12758	12927	13218	13435	13639
	(1.50) (2.13) (1.11) (1.31) (1.26) (1.64) (1.51)						
GOVERNMENT CIVILIAN EMPLOYMENT	10900	11169	11423	11688	11877	12052	12252
	(1.48) (3.42) (1.03) (1.42) (1.32) (1.63) (1.48)						
CANADIAN ARMED FORCES	1424	1450	1477	1503	1520	1538	1566
	(1.81) (1.81) (1.81) (1.81) (1.81) (1.81) (1.81)						
	(0.0) (0.0) (0.0) (0.0) (0.0) (0.0) (0.0)						
THOUSANDS OF DOLLARS							
AVERAGE ANNUAL WAGE OF PRIVATE EMPLOYEES	30.351	23.203	36.410	39.853	43.656	47.947	52.807
	(9.43) (9.40) (9.66) (9.46) (9.54) (9.83) (10.14)						
AVERAGE ANNUAL WAGE OF ARMED FORCES	48.482	52.928	57.839	63.113	68.792	74.883	81.236
	(9.04) (9.17) (9.28) (9.13) (9.00) (8.85) (8.48)						
PER CENT							
UNEMPLOYMENT RATE	9.07	8.02	7.68	7.77	7.26	7.14	6.98
LABOUR FORCE PARTICIPATION RATES							
FEMALES 15-24 YEARS	63.48	64.71	64.61	65.07	66.04	66.70	67.30
FEMALES 25-54 YEARS	69.17	70.59	71.59	72.14	72.46	73.83	74.28
FEMALES 55 YEARS AND OVER	19.18	19.58	14.71	14.21	14.21	13.46	13.43
MALES 15-24 YEARS	75.67	76.43	76.25	76.56	77.25	77.86	78.34
MALES 25-54 YEARS	87.15	87.07	86.45	86.47	86.52	86.51	86.49
MALES 55 YEARS AND OVER	42.93	42.76	41.89	41.34	41.03	40.55	40.04
OVERALL RATE	66.80	67.52	67.40	67.72	68.27	68.68	69.00

NOTE - PERCENTAGE CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table 6

FEDERAL GOVERNMENT REVENUES AND EXPENDITURES

	1981	1982	1983	1984	1985	1987	1988
REVENUES							
INDIRECT TAXES							
DIRECT TAXES - CORP. & GOV'T. BUS. ENT.	18938	19937	22926	26461	29257	33744	40027
	(56.28) (5.83) (14.98) (15.43) (10.57) (15.34) (18.52) (15.87)						
DIRECT TAXES & TRANSFERS FROM PERSONS	8624	9685	8229	9938	14522	18644	20736
	(7.77) (3.08) (4.74) (30.78) (46.23) (28.29) (11.22) (15.89)						
DIRECT TAXES ON NONRESIDENTS	28084	33235	37829	42548	48233	54182	60110
	(24.02) (14.25) (13.78) (12.48) (13.36) (12.35) (10.82) (10.91)						
INVESTMENT INCOME	1110	849	1853	1277	1404	1570	1744
	(0.96) (0.31) (0.50) (0.34) (0.38) (0.41) (0.45) (0.50)						
NET TRANSF. FROM (+), TO (-) OTHER GOV'T'S *	5401	5313	5504	5504	6783	7085	7453
	(4.60) (4.58) (4.82) (4.77) (5.86) (6.03) (6.03) (6.26)						
EXPENDITURES							
CURRENT EXP. ON GOODS & SERVICES							
GROSS CAPITAL FORMATION	16300	18074	18948	22195	24731	27673	30888
	(18.22) (10.88) (9.82) (11.82) (11.28) (11.13) (11.34) (11.31)						
TRANSFERS TO PERSONS	1044	1225	1378	1486	1648	1844	2038
	(2.86) (3.89) (4.04) (7.78) (10.82) (11.88) (10.52) (9.80)						
SUBSIDIES	18643	22953	26590	30171	33151	37609	42271
	(13.69) (13.81) (15.83) (13.47) (9.88) (13.45) (12.07) (12.07)						
CAPITAL ASSISTANCE	6279	7490	9591	11466	13199	15976	18527
	(14.35) (16.45) (20.08) (19.56) (6.36) (14.60) (18.26) (18.61)						
TRANSFERS TO NONRESIDENTS	181	1858	2856	3225	3622	4244	4987
	(0.01) (0.01) (0.01) (0.01) (0.01) (0.01) (0.01) (0.01)						
INTEREST ON THE PUBLIC DEBT	13250	17137	18872	21083	22837	25176	27253
	(38.30) (38.37) (15.96) (6.08) (8.42) (10.14) (8.28) (10.54)						
CAPITAL CONSUMPTION ALLOWANCES	823	890	1048	1342	1471	1626	1780
	(0.75) (0.75) (0.75) (0.75) (0.75) (0.75) (0.75) (0.75)						
SURPLUS (+) OR DEFICIT (-)	-7504	-16263	-21138	-21836	-17254	-19877	-16008
	(3183) (-10788) (-2833) (-700) (4572) (1377) (-122) (289)						

* INCLUDES OTHER REVENUES

NOTE - PERCENT CHANGES (OR LEVELS CHANGES) IN PARENTHESES

Appendix Table 6 (cont'd.)

FEDERAL GOVERNMENT REVENUES AND EXPENDITURES

	1988	1990	1991	1992	1993	1994	1995
	MILLIONS OF DOLLARS						
REVENUES							
INDIRECT TAXES	53569	59842	71498	81680	84153	108134	124473
	(14.44)	(13.80)	(19.48)	(14.24)	(15.37)	(14.85)	(15.11)
DIRECT TAXES - CORP. & GOV'T. BUS. ENT.	37957	32523	27724	42084	47903	52896	55141
	(16.58)	(10.28)	(15.19)	(11.23)	(11.18)	(10.42)	(4.24)
DIRECT TAXES & TRANSFERS FROM PERSONS	72597	82548	91402	10627	110545	120497	135003
	(10.39)	(12.15)	(10.72)	(10.00)	(9.84)	(8.00)	(12.04)
DIRECT TAXES ON NONRESIDENTS	2128	2248	2574	2600	3123	3459	3742
	(0.92)	(0.98)	(1.07)	(1.07)	(1.17)	(1.27)	(1.48)
INVESTMENT INCOME	8702	8248	10574	11807	12717	14752	16483
	(3.76)	(3.77)	(3.17)	(5.88)	(4.11)	(5.21)	(4.88)
NET TRANSFER FROM (+), TO (-) OTHER GOV'T'S *	-34092	-24760	-23845	-27050	-28181	-28621	-31101
EXPENDITURES							
CURRENT EXP. ON GOODS & SERVICES	37726	41664	46041	50323	56449	62553	70088
	(10.80)	(10.44)	(10.51)	(10.82)	(10.82)	(10.82)	(12.01)
GRAND CAPITAL FORMATION	2441	2871	2846	3218	3508	3848	4242
	(0.08)	(0.44)	(0.29)	(0.23)	(0.03)	(0.70)	(10.24)
TRANSFERS TO PERSONS	92228	99198	85757	72970	80708	89108	87944
	(12.35)	(11.22)	(11.06)	(10.37)	(10.80)	(10.41)	(9.92)
SUBSIDIES	23169	28403	32803	28918	45284	52737	63784
	(18.12)	(13.96)	(18.41)	(14.78)	(16.82)	(16.20)	(20.87)
CAPITAL ASSISTANCE	6728	7808	8084	10578	12312	14228	18599
	(0.28)	(0.34)	(0.34)	(0.41)	(0.41)	(0.41)	(0.41)
TRANSFERS TO NONRESIDENTS	1861	1784	1938	2083	2260	2441	2636
	(0.07)	(0.07)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
INTEREST ON THE PUBLIC DEBT	32910	38956	41568	45927	50598	55685	61685
	(11.23)	(10.38)	(12.47)	(10.49)	(10.17)	(10.06)	(10.77)
CAPITAL CONSUMPTION ALLOWANCES	2121	2317	2547	2776	3017	3292	3616
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
SURPLUS (+) OR DEFICIT (-)	-18462	-11203	-8428	-8971	-7408	-7298	-8630
	(-388)	(4258)	(1775)	(587)	(1615)	(160)	(-2333)

* INCLUDES 'OTHER REVENUES'

NOTE - PERCENT CHANGES (OR LEVELS CHANGES) IN PARENTHESES

Appendix Table 7

COMBINED PUBLIC SECTOR SURPLUS (+) OR DEFICIT (-)

	1981	1982	1983	1984	1985	1986	1987	1988
	MILLIONS OF DOLLARS							
FEDERAL	-7804	-12282	-21125	-21826	-17324	-15877	-16008	-19751
PROVINCIAL	(3192)	(-10788)	(-2823)	(-700)	(4572)	(1377)	(-122)	(-258)
LOCAL	(1128)	(-718)	(-6827)	(-8608)	(-4384)	(-2827)	(-6010)	(-3078)
PUBLIC HOSPITALS	(-253)	(-418)	(-1801)	(1021)	(1242)	(527)	(-172)	(922)
	(-250)	(-206)	(-480)	(-428)	(-388)	(-280)	(-12)	(-83)
CANADA & QUEBEC PENSION PLANS	(-283)	(-13)	(-32)	(82)	(62)	(87)	(-12)	(68)
	(-432)	(370)	(0)	(-13)	(-14)	(-14)	(-15)	(-15)
	(3213)	(2537)	(2920)	(0)	(0)	(0)	(0)	(0)
	(211)	(-276)	(-17)	(-109)	(-3)	(48)	(111)	(60)
COMBINED PUBLIC SECTOR	-2233	-20682	-23327	-35064	-19182	-17186	-17223	-18804
	(3750)	(-18418)	(-4684)	(272)	(1872)	(2036)	(-67)	(1218)

NOTE - LEVELS CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table 7

COMBINED PUBLIC SECTOR SURPLUS (+) OR DEFICIT (-)

	1989	1990	1991	1992	1993	1994	1995
	MILLIONS OF DOLLARS						
FEDERAL	-15462	-11203	-9428	-8871	-7456	-7286	-9230
PROVINCIAL	(385) (4258)	(1775) (557)	(1445) (1445)	(1445) (1445)	(1445) (1445)	(1445) (1445)	(1445) (1445)
LOCAL	(-3781) (-3088)	(-8018) (-2808)	(-1210) (-1210)	(-1210) (-1210)	(-1210) (-1210)	(-1210) (-1210)	(-1210) (-1210)
PUBLIC HOSPITALS	(-61) (-73)	(-143) (-143)	(-227) (-227)	(-227) (-227)	(-227) (-227)	(-227) (-227)	(-227) (-227)
CANADA & QUEBEC PENSION PLANS	(21) (-11)	(-68) (-83)	(-180) (-180)	(-180) (-180)	(-180) (-180)	(-180) (-180)	(-180) (-180)
	(-15) (-16)	(-17) (-17)	(-17) (-17)	(-17) (-17)	(-17) (-17)	(-17) (-17)	(-17) (-17)
	(0) (0)	(0) (0)	(0) (0)	(0) (0)	(0) (0)	(0) (0)	(0) (0)
	(3054) (3054)	(3302) (3302)	(3501) (3501)	(3501) (3501)	(3501) (3501)	(3501) (3501)	(3501) (3501)
	(30) (10)	(236) (236)	(289) (289)	(289) (289)	(289) (289)	(289) (289)	(289) (289)
COMBINED PUBLIC SECTOR	-18276	-13616	-11308	-8333	-8222	-7580	-10818
	(-2372) (4686)	(2313) (1972)	(111) (1242)	(-2838)			

NOTE - LEVELS CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table 8

NATIONAL AND PERSONAL INCOME

	1981	1982	1983	1984	1985	1986	1987	1988
	MILLIONS OF CURRENT DOLLARS							
WAGES SALARIES AND SUPPLEMENTARY								
LABOUR INCOME	184752	186121	210022	227113	265008	259451	320975	379083
MILITARY PAY AND ALLOWANCES	(12.78)	(7.24)	(5.46)	(12.42)	(12.18)	(12.57)	(12.40)	(11.82)
	1856	2023	2228	2442	2690	2548	3248	3897
CORPORATION PROFITS BEFORE TAXES AND	(11.61)	(9.54)	(9.23)	(9.55)	(9.72)	(10.01)	(10.21)	(9.59)
BEFORE DIVIDENDS TO NON-RESIDENTS	22856	27572	40081	48442	63838	77882	85372	96579
NET INCOME OF UNINCORPORATED BUSINESS	(-8.82)	(-19.54)	(45.26)	(22.26)	(28.12)	(22.00)	(9.62)	(12.18)
	17480	18087	26082	34428	43848	47778	51104	60222
OTHER INCOME	(12.45)	(9.25)	(26.62)	(21.62)	(27.26)	(8.84)	(6.87)	(18.62)
	20412	44271	50179	61682	75171	82828	81120	106625
INVENTORY VALUATION ADJUSTMENT	(16.80)	(12.22)	(12.34)	(22.85)	(21.65)	(10.18)	(10.02)	(17.22)
	-8721	-8228	-8766	-8650	-10206	-12788	-10618	-20689
NET NATIONAL INCOME	252220	266238	287708	341105	387882	448374	502776	584178
INDIRECT TAXES LESS SUBSIDIES	(10.89)	(4.88)	(11.88)	(14.58)	(16.55)	(12.04)	(11.88)	(12.51)
	26240	28518	42024	48225	53019	50482	68878	76530
CAPITAL CONSUMPTION ALLOWANCES AND	(21.00)	(2.32)	(8.40)	(12.59)	(11.60)	(12.38)	(12.59)	(11.43)
MISC. VALUATION ADJUSTMENTS	28766	31953	45242	51666	60225	70281	81008	92430
STATISTICAL DISCREPANCY	(11.16)	(11.11)	(13.24)	(14.20)	(16.87)	(16.83)	(16.31)	(14.10)
GROSS NATIONAL PRODUCT	28512	40188	42501	49085	54777	61510	68296	77788
	328801	348862	386455	441871	512958	581140	638265	728414
PERSONAL INCOME	(12.33)	(5.22)	(11.70)	(14.24)	(16.00)	(12.28)	(12.47)	(12.57)
	276421	297181	328210	382171	432847	480886	545014	611889
PERSONAL DISPOSABLE INCOME	(16.58)	(11.04)	(10.10)	(12.22)	(12.86)	(12.25)	(12.14)	(12.24)
	222750	245284	286932	305280	344282	385200	424328	488008
PERSONAL SAVING	(15.67)	(10.17)	(9.43)	(12.80)	(12.80)	(12.17)	(12.44)	(12.26)
	25750	22441	37484	28768	41012	40728	41878	48578
PERSONAL SAVING RATE (PER CENT)	(22.32)	(23.88)	(18.58)	(6.07)	(2.12)	(-0.68)	(2.08)	(9.61)
	11.52	12.18	12.96	12.01	11.80	10.55	9.57	9.34
PERSONAL DISPOSABLE INCOME IN	(12.82)	(14.42)	(8.88)	(-5.72)	(-11.40)	(-9.27)	(-2.42)	(-2.42)
CONSTANT (1971) DOLLARS	87689	86687	87887	100784	104080	108611	108441	112011
	(4.08)	(-1.02)	(1.37)	(2.88)	(3.27)	(2.42)	(2.08)	(2.26)

NOTE - PERCENTAGE CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table B (cont'd.)

NATIONAL AND PERSONAL INCOME		1989	1990	1991	1992	1993	1994	1995
		BILLIONS OF CURRENT DOLLARS						
WAGES SALARIES AND SUPPLEMENTARY		432226	471224	522495	583489	658903	732358	821879
LABOUR INCOME		(11.20)	(11.63)	(10.86)	(11.68)	(13.48)	(13.31)	(12.08)
MILITARY PAY AND ALLOWANCES		3070	4224	4627	5088	5603	6191	6489
		(9.04)	(9.17)	(9.28)	(9.12)	(8.00)	(8.85)	(8.48)
CORPORATION PROFITS BEFORE TAXES AND		111224	124182	132016	140130	152357	165557	178487
BEFORE DIVIDENDS TO NON-RESIDENTS		(19.22)	(20.52)	(12.28)	(8.46)	(10.35)	(9.48)	(12.48)
NET INCOME OF UNINCORPORATED BUSINESS		64723	77989	80079	84411	89952	96511	110634
		(6.77)	(19.88)	(10.73)	(6.20)	(8.25)	(-3.25)	(24.04)
OTHER INCOME		116722	123229	131595	143544	165061	186176	224630
		(9.16)	(15.86)	(12.10)	(9.12)	(12.42)	(9.48)	(19.60)
INVENTORY VALUATION ADJUSTMENT		-24475	-25045	-25194	-41035	-48268	-53920	-63392
NET NATIONAL INCOME		829793	719091	799647	878148	978427	1081119	1225107
		(11.23)	(12.55)	(11.27)	(11.42)	(10.50)	(10.50)	(12.41)
INDIRECT TAXES LESS SUBSIDIES		84103	99516	106430	118653	132669	150278	165128
		(0.03)	(12.28)	(11.43)	(11.48)	(12.91)	(12.25)	(13.28)
CAPITAL CONSUMPTION ALLOWANCES AND		105519	121914	140310	160490	181812	205301	232068
MISC. VALUATION ADJUSTMENTS		(14.16)	(15.84)	(15.09)	(14.28)	(13.25)	(12.82)	(13.32)
STATISTICAL DISCREPANCY		66296	87008	108051	120414	135885	152486	167419
GROSS NATIONAL PRODUCT		821834	934021	1044016	1189062	1388123	1438696	1625893
		(11.87)	(12.68)	(11.78)	(11.02)	(11.83)	(11.01)	(12.04)
PERSONAL INCOME		678813	763656	848014	939647	1048015	1186387	1302830
		(10.87)	(12.50)	(11.08)	(10.84)	(11.20)	(10.36)	(12.65)
PERSONAL DISPOSABLE INCOME		943224	811566	879080	751088	845124	931082	1080901
		(11.32)	(12.54)	(11.04)	(10.61)	(12.13)	(10.96)	(12.87)
PERSONAL SAVINGS		51162	59453	85120	72038	87089	95052	112429
		(12.26)	(16.99)	(8.82)	(12.43)	(9.24)	(8.14)	(18.28)
PERSONAL SAVING RATE (PER CENT)		9.41	9.78	9.89	9.71	10.34	10.21	10.70
PERSONAL DISPOSABLE INCOME IN		(0.79)	(2.96)	(-2.01)	(1.20)	(6.46)	(-1.28)	(4.80)
CONSTANT (1971) DOLLARS		116302	150801	132458	156021	170222	138920	126925
		(2.91)	(3.87)	(2.18)	(2.10)	(2.34)	(1.99)	(4.53)

NOTE - PERCENTAGE CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table 9

CAPITAL FINANCE ACCOUNT

	1981	1982	1983	1984	1985	1986	1987	1988
MILLIONS OF CURRENT DOLLARS								
GROSS DOMESTIC CAPITAL FORMATION								
BUSINESS GROSS FIXED CAPITAL FORMATION	71240	68047	70448	84437	104403	118608	120188	147288
	(17.72)	(-2.08)	(4.92)	(16.88)	(23.88)	(19.80)	(9.88)	(19.22)
CHANGE IN BUSINESS INVENTORIES	1849	-8300	881	1518	2788	4231	4772	3568
	(0.46)	(-23.50)	(0.24)	(0.38)	(0.74)	(1.14)	(1.25)	(0.98)
GOVERNMENT GROSS CAPITAL FORMATION	8931	10075	10875	11768	12083	14618	18187	17741
	(10.46)	(12.81)	(7.84)	(8.21)	(10.02)	(12.00)	(10.83)	(9.80)
FINANCING OF CAPITAL FORMATION								
PERSONAL SAVING	25750	32441	37484	38768	41012	40728	41878	48878
	(33.23)	(25.88)	(15.58)	(6.07)	(3.13)	(-0.68)	(3.08)	(9.61)
UNDISTRIBUTED CORPORATE PROFITS	13764	12684	18875	22280	27880	33043	38087	38607
	(-26.81)	(-7.84)	(56.68)	(12.00)	(28.70)	(18.08)	(6.10)	(12.88)
PUBLIC SECTOR SURPLUS (-) OR DEFICIT (-)	-2223	-20652	-25237	-25084	-18182	-17156	-17223	-15804
	(-2.92)	(-30.52)	(-35.57)	(-32.57)	(-23.57)	(-22.57)	(-22.57)	(-23.57)
CURRENT ACCOUNT DEFICIT (-) OR SURPLUS (-)	8978	4473	4538	3768	3187	6036	6778	6394
	(11.74)	(6.57)	(6.66)	(4.78)	(3.97)	(8.16)	(9.16)	(9.46)
CAPITAL CONSUMPTION ALLOWANCES (NON-V-T)	10008	33670	38148	43847	51783	60888	70772	81220
	(13.23)	(50.08)	(55.28)	(63.84)	(75.88)	(84.88)	(98.88)	(118.88)
INVENTORY VALUATION ADJUSTMENT	-8721	-8228	-8768	-8697	-10208	-13788	-16618	-20888
	(-11.72)	(-12.08)	(-12.58)	(-12.57)	(-13.58)	(-16.58)	(-20.58)	(-28.88)
OTHER	14224	13423	13288	20807	23710	27182	30772	34888
	(18.43)	(-9.63)	(12.87)	(26.38)	(30.80)	(36.80)	(42.80)	(48.80)

NOTE - PERCENTAGE CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table 9 (cont'd.)

CAPITAL FINANCE ACCOUNT

	1980	1982	1981	1983	1984	1985
BILLIONS OF CURRENT DOLLARS						
GROSS DOMESTIC CAPITAL FORMATION						
BUSINESS GROSS FIXED CAPITAL FORMATION	167014 (13.31) (20.22) (15.84) (13.10) (12.89) (12.37) (15.14)	200765 (20.22) (15.84) (13.10) (12.89) (12.37) (15.14)	222568 (20.22) (15.84) (13.10) (12.89) (12.37) (15.14)	236208 (20.22) (15.84) (13.10) (12.89) (12.37) (15.14)	222688 (20.22) (15.84) (13.10) (12.89) (12.37) (15.14)	282263 (20.22) (15.84) (13.10) (12.89) (12.37) (15.14)
CHANGE IN BUSINESS INVENTORIES	8317 (8.31) (8.31) (8.31) (8.31) (8.31) (8.31) (8.31)	8438 (8.31) (8.31) (8.31) (8.31) (8.31) (8.31) (8.31)	8082 (8.31) (8.31) (8.31) (8.31) (8.31) (8.31) (8.31)	7817 (8.31) (8.31) (8.31) (8.31) (8.31) (8.31) (8.31)	5922 (8.31) (8.31) (8.31) (8.31) (8.31) (8.31) (8.31)	6444 (8.31) (8.31) (8.31) (8.31) (8.31) (8.31) (8.31)
GOVERNMENT GROSS CAPITAL FORMATION	18252 (9.08) (9.44) (10.29) (9.23) (9.03) (9.70) (10.24)	21178 (9.44) (10.29) (9.23) (9.03) (9.70) (10.24)	22351 (9.23) (9.03) (9.70) (10.24)	23915 (9.03) (9.70) (10.24)	23815 (9.70) (10.24)	23627 (10.24)
FINANCING OF CAPITAL FORMATION						
PERFECTED SAVINGS	91483 (12.26) (15.89) (8.82) (12.14) (18.24) (9.14) (18.28)	108652 (15.89) (8.82) (12.14) (18.24) (9.14) (18.28)	69120 (8.82) (12.14) (18.24) (9.14) (18.28)	72026 (12.14) (18.24) (9.14) (18.28)	87088 (18.24) (9.14) (18.28)	112429 (9.14) (18.28)
UNDISTRIBUTED CORPORATE PROFITS	65853 (9.37) (22.00) (11.64) (6.53) (9.58) (8.87) (13.82)	10744 (22.00) (11.64) (6.53) (9.58) (8.87) (13.82)	62231 (11.64) (6.53) (9.58) (8.87) (13.82)	68286 (6.53) (9.58) (8.87) (13.82)	72643 (9.58) (8.87) (13.82)	88047 (8.87) (13.82)
PUBLIC SECTOR SURPLUS (+) OR DEFICIT (-)	-18276 (8.05) (7.49) (10.12) (10.54) (8.28) (6.19) (28.48)	-12618 (7.49) (10.12) (10.54) (8.28) (6.19) (28.48)	-11205 (10.12) (10.54) (8.28) (6.19) (28.48)	-9227 (10.54) (8.28) (6.19) (28.48)	-9222 (8.28) (6.19) (28.48)	-10818 (6.19) (28.48)
CURRENT ACCOUNT SURPLUS (+) OR DEFICIT (-)	63323 (14.89) (16.28) (15.73) (15.01) (13.80) (13.32) (15.89)	108652 (16.28) (15.73) (15.01) (13.80) (13.32) (15.89)	125661 (15.73) (15.01) (13.80) (13.32) (15.89)	144923 (15.01) (13.80) (13.32) (15.89)	164480 (13.80) (13.32) (15.89)	212209 (13.32) (15.89)
CAPITAL CONVERSION ALLOWANCES (NAB-804-T)	-24475 (28.48) (29.15) (41.03) (42.86) (42.86) (42.86) (42.86)	-28445 (29.15) (41.03) (42.86) (42.86) (42.86) (42.86)	-29154 (41.03) (42.86) (42.86) (42.86) (42.86) (42.86)	-41039 (42.86) (42.86) (42.86) (42.86) (42.86) (42.86)	-4286 (42.86) (42.86) (42.86) (42.86) (42.86) (42.86)	-4286 (42.86) (42.86) (42.86) (42.86) (42.86) (42.86)
IMPEDEMENT VALUATION ADJUSTMENT	28343 (11.56) (11.18) (11.37) (10.69) (10.90) (10.76) (12.12)	42816 (11.18) (11.37) (10.69) (10.90) (10.76) (12.12)	47462 (11.37) (10.69) (10.90) (10.76) (12.12)	52338 (10.69) (10.90) (10.76) (12.12)	56254 (10.90) (10.76) (12.12)	59169 (10.76) (12.12)
OTHER						

NOTE - PERCENTAGE CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table 10

ENERGY MISCELLANEOUS - SUMMARY TABLE

PRODUCTION/DOMESTIC
 (WELL, OIL, OR BILL, CUB FT.)

	1982	1983	1984	1985	1986	1987	1988
PETROLEUM PRODUCTION							
CONVENTIONAL CRUDE (OLD)	428	410	385	365	343	323	303
CONVENTIONAL CRUDE (NEW)	34	41	47	52	57	62	78
SYNTHETIC	95	95	95	95	95	95	95
TERTIARY	0	0	0	0	0	1	1
FRACURED-HORIZONTAL	0	0	0	0	0	32	83
TOTAL PETROLEUM PRODUCTION	515	506	489	462	400	487	520
DOMESTIC DEMAND FOR PETROLEUM	604	599	582	567	587	583	567
TOTAL NATURAL-GAS PRODUCTION	3713	3987	3283	3418	3595	3667	3747
DOMESTIC DEMAND FOR NATURAL GAS	1912	1887	2083	2188	2295	2347	2397

DOMESTIC PRICES
 (CUB. FT./CUB. YD. OR CUB. YD./CUB. FT.)

	1982	1983	1984	1985	1986	1987	1988
WELLHEAD PRICE, CONVENTIONAL CRUDE (OLD)	24.83	31.02	37.80	44.15	50.35	60.80	70.47
WELLHEAD PRICE, CONVENTIONAL CRUDE (NEW)	24.83	31.75	38.78	47.75	54.70	64.90	76.00
REFINERS' ACQUISITION PRICE (ENLARGED PRICE)	31.48	38.59	42.78	50.01	58.78	70.35	82.04
NEW OIL REFERENCE PRICE	47.37	55.04	61.83	68.78	75.78	81.88	89.68
OIL IMPORT PRICE	42.07	60.22	51.31	60.22	71.07	81.68	95.47
PRICE FOR NEW CONVENTIONAL CRUDE	42.07	60.22	51.31	60.22	71.07	81.68	95.47
PRICE FOR TERTIARY PRODUCTION	42.07	60.22	51.31	60.22	71.07	81.68	95.47
PRICE FOR FRACURED-HORIZONTAL PRODUCTION	42.07	60.22	51.31	60.22	71.07	81.68	95.47
PRICE FOR SYNTHETIC-OIL PRODUCTION	42.07	60.22	51.31	60.22	71.07	81.68	95.47
NATURAL-GAS NATURAL-GAS, DOMESTIC SALES	2.19	2.69	3.19	3.69	4.19	5.08	6.00
NATURAL-GAS, EXPORT SALES	5.14	5.42	6.42	7.77	8.40	11.15	12.10
WEIGHTED NATURAL-GAS PRICE - NATURAL GAS	3.07	3.82	4.38	5.18	6.08	7.30	8.58
TORONTO CITY-GAS PRICE, NATURAL GAS	3.38	4.04	4.80	5.61	6.70	7.88	9.19

Appendix Table 10 (cont'd.)
ENERGY MODULE - SUMMARY TABLE

PRODUCTION/DEMAND
(WELL, BOIL, OR BILL, CU FT.)

	1980	1990	1991	1992	1993	1994	1995
PETROLEUM PRODUCTION							
CONVENTIONAL GRADE (OLD)	285	271	257	251	250	249	249
CONVENTIONAL GRADE (NEW)	84	87	89	92	94	95	101
SYNTHETIC	65	65	65	65	105	105	113
TERTIARY	4	7	8	14	14	14	14
FRONTIER-HIBERNIA	75	75	75	75	75	75	84
TOTAL PETROLEUM PRODUCTION	514	505	505	507	560	565	612
DOMESTIC DEMAND FOR PETROLEUM	584	582	581	587	605	605	615
TOTAL NATURAL-GAS PRODUCTION	3789	3853	3869	4062	4166	4225	4329
DOMESTIC DEMAND FOR NATURAL GAS	3448	3503	3519	3712	3815	3875	3979

DOMESTIC PRICES
(COM \$/GAL., OR COM \$/THERM, CU FT.)

	1980	1990	1991	1992	1993	1994	1995
WELLHEAD PRICE, CONVENTIONAL GRADE (OLD)	81.87	84.38	109.35	123.11	126.00	148.00	160.00
WELLHEAD AGREEMENT BASE FOR WELLHEAD PRICE	88.00	100.00	112.00	124.00	128.00	148.00	160.00
REFINERS' ACQUISITION PRICE (BLENDED PRICE)	95.71	111.28	128.27	147.11	155.86	184.83	205.57
NEW OIL REFERENCE PRICE	89.04	99.82	105.82	118.78	122.75	146.87	162.84
OIL IMPORT PRICE	110.44	127.44	145.12	157.43	160.04	212.13	235.68
PRICE FOR NEW CONVENTIONAL GRADE	110.44	127.44	145.12	157.43	160.04	212.13	235.68
PRICE FOR TERTIARY PRODUCTION	110.44	127.44	145.12	157.43	160.04	212.13	235.68
PRICE FOR FRONTIER-HIBERNIA PRODUCTION	110.44	127.44	145.12	157.43	160.04	212.13	235.68
PRICE FOR SYNTHETIC-OIL PRODUCTION	110.44	127.44	145.12	157.43	160.04	212.13	235.68
NETBACK ON NATURAL GAS, DOMESTIC SALES	8.05	7.85	8.92	10.33	11.92	12.87	16.20
NETBACK ON NATURAL GAS, EXPORT SALES	15.37	17.96	20.80	24.00	27.51	30.90	34.43
WEIGHTED NETBACK PRICE - NATURAL GAS	8.88	11.39	12.96	14.80	16.37	19.16	21.81
TORONTO CITYGATE PRICE, NATURAL GAS	10.73	12.47	14.38	16.48	18.60	20.89	23.15

Appendix Table 11

ENERGY IMPACTS - Summary Table

EXTERNAL TRADE

EXCHANGED RATE (C2000/US\$)

1001	1002	1003	1004	1005	1006	1007	1008
1.20	1.24	1.25	1.25	1.25	1.25	1.24	1.23
(2.57)	(2.10)	(2.11)	(-0.20)	(-0.05)	(-0.00)	(-0.20)	(-0.00)

EXPORTS OF OIL & GAS

IMPORTS OF OIL

424	425	400	540	502	531	550	552
(-6.31)	(-0.05)	(14.05)	(12.42)	(-9.52)	(5.89)	(9.10)	(-0.10)
423	328	340	391	340	384	329	275
(-0.03)	(-22.40)	(6.40)	(9.40)	(-8.40)	(12.80)	(-12.77)	(-19.08)

(\$ MILLIONS)

EXPORTS OF OIL & GAS

IMPORTS OF OIL

BALANCE ON OIL AND GAS TRADE

7234	7044	9308	12079	14083	15408	16005	16005
(5.23)	(0.44)	(10.21)	(20.45)	(3.43)	(24.01)	(21.72)	(16.75)
8109	6263	6851	8450	8025	11821	11400	10805
(16.81)	(-22.26)	(9.40)	(24.45)	(5.79)	(30.44)	(-1.40)	(-7.57)
-805	1581	2545	3525	3454	3083	7160	11202

(1971=100 (C2000))

DEFLATOR, OIL & GAS EXPORTS (E045)

DEFLATOR, OIL & GAS IMPORTS (E020)

DEFLATOR, OIL IMPORTS (E015)

DEFLATOR, OIL IMPORTS (E020)

1409	1402	1524	1747	1806	2241	2719	3205
(0.82)	(2.77)	(2.18)	(14.62)	(14.21)	(17.34)	(15.14)	(17.84)
1723	1846	1825	2109	2400	2819	3279	3600
(11.97)	(7.14)	(4.20)	(14.21)	(12.13)	(17.32)	(15.77)	(16.09)
1602	1544	1556	1777	2070	2409	2715	3108
(12.40)	(-0.70)	(0.75)	(14.20)	(16.50)	(15.23)	(15.20)	(15.20)
1923	1841	1865	2237	2581	3052	3450	3840
(16.24)	(-0.59)	(2.87)	(13.19)	(15.40)	(16.32)	(14.32)	(14.10)

DOMESTIC PRICES

REFINERS' ACQUISITION PRICE (R.001)

CPI - GASOLINE (C0111.0)

1001	1002	1003	1004	1005	1006	1007	1008
26.54	21.04	26.07	42.13	50.01	59.70	70.25	82.04
(10.87)	(20.25)	(12.82)	(18.64)	(16.80)	(10.50)	(17.11)	(16.62)
3.27	4.23	4.89	5.86	6.23	7.00	7.83	8.15
(26.03)	(20.40)	(16.04)	(12.20)	(10.07)	(12.20)	(11.93)	(11.79)

NOTE - PERCENTAGE CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table 11 (cont'd.)
ENERGY IMPACTS - SUMMARY TABLE

EXTERNAL TRADE

	1989	1990	1991	1992	1993	1994	1995
EXCHANGE RATE (CDN\$/US\$)	1.23 (0.24)	1.24 (0.57)	1.25 (0.64)	1.26 (0.66)	1.26 (-0.20)	1.23 (-1.59)	1.21 (-1.90)
EXPORTS OF OIL & GAS (\$' MILLIONS)	580 (0.48)	563 (0.64)	564 (0.16)	566 (0.36)	569 (0.52)	571 (0.32)	618 (8.26)
IMPORTS OF OIL (\$ MILLIONS)	256 (-6.98)	275 (7.53)	302 (9.94)	314 (3.85)	202 (-35.57)	190 (-6.08)	151 (-20.48)
EXPORTS OF OIL & GAS (\$ MILLIONS)	25692 (16.73)	29868 (16.26)	34459 (15.37)	38696 (15.20)	45267 (15.03)	50730 (12.07)	61908 (21.24)
IMPORTS OF OIL	11534 (6.74)	14201 (23.13)	17763 (25.08)	20853 (24.13)	15246 (-27.34)	15878 (4.15)	13883 (-12.57)
BALANCE ON OIL AND GAS TRADE (1971=100. (CDN))	14158	15667	16697	18713	30021	34852	47624
DEFLATOR: OIL & GAS EXPORTS (\$US)	3716 (15.88)	4268 (14.87)	4885 (14.45)	5570 (14.01)	6334 (13.73)	7191 (13.53)	8210 (14.17)
DEFLATOR: OIL & GAS IMPORTS (\$CDN)	4589 (16.17)	5301 (15.52)	6106 (15.19)	7008 (14.76)	7950 (13.44)	8881 (11.72)	9947 (11.99)
DEFLATOR: OIL IMPORTS (\$US)	3655 (14.29)	4158 (13.76)	4701 (13.07)	5316 (13.07)	6013 (13.13)	6765 (12.84)	7649 (12.73)
DEFLATOR: OIL IMPORTS (\$CDN)	4514 (14.57)	5164 (14.41)	5876 (13.80)	6688 (13.82)	7547 (12.63)	8360 (11.04)	9267 (10.96)

DOMESTIC PRICES

	1989	1990	1991	1992	1993	1994	1995
REFINERS' ACQUISITION PRICE (\$/BBL)	95.71 (16.66)	111.29 (16.28)	128.27 (15.26)	147.11 (14.68)	165.96 (12.81)	184.63 (11.25)	206.57 (11.88)
CPI - GASOLINE (1971=1.0)	9.84 (12.32)	11.07 (12.50)	12.41 (12.11)	13.89 (11.98)	15.38 (10.70)	16.85 (9.58)	18.59 (10.27)

NOTE - PERCENTAGE CHANGES ARE WRITTEN IN PARENTHESES

Appendix Table 12
CANADA: REAL DOMESTIC PRODUCT BY INDUSTRY
(MILLIONS OF 1971 DOLLARS)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	3319	3178	3252	3268	3322	3348	3378	3434
2 FORESTRY	735	675	686	691	724	737	748	762
3 MINERAL FUEL MINES & WELLS	1416	1481	1508	1511	1519	1561	1604	1623
4 OTHER MINES & QUARRIES	1833	1662	1665	1646	1701	1703	1894	1715
5 FOOD, FEED, BEVERAGES & TOBACCO	3850	3401	3480	3558	3615	3643	3666	3732
6 TEXTILES & CLOTHING	1789	1668	1704	1788	1840	1840	1931	1998
7 FURNITURE	1608	1485	1469	1482	1563	1588	1599	1631
8 PAPER & PRINTING & ALLIED INDUSTRIES	3600	3413	3485	3522	3656	3744	3816	3920
9 PRIMARY METALS & METAL FABRICATING	4347	3843	3985	4059	4254	4320	4311	4407
10 MOTOR VEHICLES & OTHER PARTS	2060	1803	1878	1924	2011	2073	2121	2130
11 MACHINERY & OTHER TRANSPORTATION EQUIP.	2581	2241	2257	2248	2311	2415	2463	2552
12 ELECTRICAL, ELECTRONIC & OPTICAL EQUIP.	1784	1498	1505	1520	1586	1629	1632	1663
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	2959	2818	2928	3070	3282	3342	3407	3547
14 NON-METALLIC MINERAL PRODUCTS	987	880	880	933	1028	1014	986	1024
15 OTHER MANUFACTURING INDUSTRIES	1008	801	821	840	868	890	990	1008
TOTAL MANUFACTURING	26279	24117	24519	25380	26482	27089	27252	27914
16 CONSTRUCTION	7203	6275	6295	6639	7284	7241	7028	7171
17 ELECTRIC POWER, WATER & GAS UTILITIES	3515	3791	3988	4213	4449	4646	4807	5021
TOTAL GOODS-PRODUCING INDUSTRIES	44699	41159	41913	43349	45481	46335	46508	47640
18 TRANSPORTATION & STORAGE	7768	7221	7415	7771	8116	8410	8533	8701
19 COMMUNICATION	5384	5294	5649	6102	6826	7136	7606	8140
20 TRADE	15010	13789	14239	14622	15897	16336	16890	17481
21 FINANCE, INSURANCE & REAL ESTATE	15854	15503	16067	16863	17921	18603	19286	20011
22 OTHER SERVICE INDUSTRIES	17240	16828	17408	18358	19374	20308	21085	21953
TOTAL SERVICE INDUSTRIES	61284	58645	60778	63959	67634	70783	73361	76266
23 GOVERNMENT SECTOR	13710	13951	14159	14379	14876	14781	14988	15233
TOTAL: ALL SECTORS (GROSS DOMESTIC PRODUCT AT FACTOR COST - REAL)	116693	113754	116850	121687	127691	131909	134864	139140

Appendix Table 12 (cont'd.)
CANADA: REAL DOMESTIC PRODUCT BY INDUSTRY
(YEAR-OVER-YEAR PER-CENT CHANGE)

	1980	1981	1982	1983	1984	1985
1 AGRICULTURE, FISHING & TRAPPING	1.41	2.31	0.83	1.42	-0.15	0.19
2 FORESTRY	2.60	1.21	1.85	2.14	0.89	1.02
3 MINERAL FUEL MINES & WELLS	0.0	1.73	5.91	1.30	4.95	6.36
4 OTHER MINES & QUARRIES	1.86	3.72	0.85	0.88	-0.97	-0.80
5 FOOD, FEED, BEVERAGES & TOBACCO	1.47	2.15	0.21	1.38	-0.23	0.97
6 TEXTILES & CLOTHING	1.60	2.27	-0.78	-0.51	-1.52	-0.43
7 WOOD & FURNITURE	2.47	5.07	1.48	2.17	1.09	1.26
8 PAPER, PRINTING & ALLIED INDUSTRIES	2.84	3.90	2.01	2.29	1.03	0.89
9 PRIMARY METAL & METAL FABRICATING	2.01	4.92	1.64	1.28	1.07	-0.11
10 MOTOR VEHICLES & PARTS	-0.08	3.93	5.09	0.13	1.27	0.04
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	1.52	4.62	2.23	1.29	0.87	-0.42
12 ELECTRICAL PRODUCTS	0.18	3.09	-0.53	-0.26	-1.99	0.22
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	3.47	5.07	2.05	2.48	0.90	1.90
14 NON-METALLIC MINERAL PRODUCTS	3.24	7.65	2.79	1.86	-0.21	1.87
15 OTHER MANUFACTURING INDUSTRIES	-0.13	0.80	-2.35	-2.42	-4.35	-1.56
TOTAL MANUFACTURING	1.87	3.98	0.92	1.25	-0.33	0.38
16 CONSTRUCTION	2.52	9.28	3.52	2.01	1.10	3.44
17 ELECTRIC POWER, WATER & GAS UTILITIES	4.39	5.63	3.39	4.45	3.10	4.28
TOTAL GOODS-PRODUCING INDUSTRIES	2.32	4.77	1.99	1.75	0.50	1.51
18 TRANSPORTATION & STORAGE	2.23	4.11	1.63	2.29	0.88	1.50
19 COMMUNICATION	6.73	6.09	5.83	6.19	5.14	7.04
20 TRADE	3.07	4.53	2.06	3.07	3.25	3.25
21 FINANCE, INSURANCE & REAL ESTATE	3.43	4.95	2.60	2.92	1.48	3.86
22 OTHER SERVICE INDUSTRIES	3.96	5.31	3.43	3.10	2.37	5.54
TOTAL SERVICE INDUSTRIES	3.72	5.10	2.81	3.36	2.30	4.37
23 GOVERNMENT SECTOR	1.60	1.60	1.88	1.56	1.92	1.56
TOTAL: ALL SECTORS (GROSS DOMESTIC PRODUCT AT FACTOR COST - REAL)	3.01	4.61	2.88	2.63	1.62	3.14

Appendix Table 12 (cont'd.)

CANADA: REAL DOMESTIC PRODUCT BY INDUSTRY

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	9.84	-4.24	2.32	0.51	1.63	0.79	0.80	1.78
2 FORESTRY	-2.99	-8.07	1.97	0.67	4.84	1.83	1.08	2.30
3 MINERAL FUEL MINES & WELLS	-8.01	3.17	3.22	0.20	0.53	2.76	2.75	1.18
4 OTHER MINES & QUARRIES	-4.01	-9.35	0.21	-1.12	3.33	0.13	-0.53	1.21
5 FOOD, FEED, BEVERAGES & TOBACCO	4.37	-4.18	2.63	1.94	1.61	0.76	0.63	1.82
6 TEXTILES & CLOTHING	1.23	-7.28	2.18	4.92	4.93	3.41	0.54	2.47
7 WOOD & FURNITURE	-1.05	-9.59	1.26	0.87	5.48	1.58	0.68	2.01
8 PRINTING & ALLIED INDUSTRIES	0.84	-9.18	2.43	0.76	3.80	2.42	1.82	3.71
9 PRIMARY METALS	2.80	-9.28	1.01	1.91	4.80	1.55	-0.20	2.23
10 MOTOR VEHICLES & PARTS	4.87	-7.62	-1.48	20.08	7.12	2.56	-2.13	0.41
11 MACHINERY & OTHER TRANSPORTATION EQUIP.	8.87	-13.16	0.72	-0.39	2.77	4.53	1.96	3.68
12 ELECTRICAL PRODUCTS	8.60	-16.02	0.46	1.63	3.78	2.61	0.21	1.82
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	3.93	-16.02	3.92	4.83	5.28	3.39	1.96	4.10
14 NON-METALLIC MINERAL PRODUCTS	3.52	-10.44	1.33	4.83	8.10	0.62	-1.77	2.72
15 OTHER MANUFACTURING INDUSTRIES	7.26	-10.58	2.16	2.01	3.03	2.25	0.03	1.94
TOTAL MANUFACTURING	3.20	-8.23	1.67	3.51	4.34	2.33	0.57	2.43
16 CONSTRUCTION	7.80	-12.88	0.32	5.47	9.71	-0.59	-2.94	2.03
17 ELECTRIC POWER, WATER & GAS UTILITIES	4.63	-3.16	5.21	5.64	5.58	4.43	3.46	4.45
TOTAL GOODS-PRODUCING INDUSTRIES	3.69	-7.92	1.83	3.43	4.92	1.88	0.37	2.44
18 TRANSPORTATION & STORAGE	3.35	-7.02	2.68	4.80	4.44	3.62	1.46	1.87
19 COMMUNICATION	8.07	-1.87	6.70	6.01	8.58	7.70	6.58	7.03
20 TRADE, HOTEL, RESTAURANT & RECREATION	2.36	-8.07	3.19	4.40	5.59	4.07	3.15	3.62
21 FINANCE, INSURANCE & REAL ESTATE	4.39	-2.40	3.64	4.85	5.88	4.38	3.68	3.76
22 OTHER SERVICE INDUSTRIES	7.75	-2.39	3.45	5.46	5.53	4.82	3.83	4.11
TOTAL SERVICE INDUSTRIES	4.88	-4.31	3.64	5.23	5.75	4.67	3.63	3.90
23 GOVERNMENT SECTOR	1.52	1.75	1.40	1.95	1.37	1.41	1.46	1.57
TOTAL: ALL SECTORS (GROSS DOMESTIC PRODUCT AT FACTOR COST - REAL)	4.03	-4.96	2.72	4.14	4.83	3.30	2.24	3.17

Appendix Table 12 (cont'd.)

CANADA: REAL DOMESTIC PRODUCT BY INDUSTRY

(MILLIONS OF 1971 DOLLARS)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING	3489	3970	3873	3992	3643	3638	3645
2 FORESTRY	782	810	830	845	863	871	879
3 MINERAL FUEL MINES & WELLS	1623	1651	1675	1775	1798	1887	2007
4 OTHER MINES & QUARRIES	1742	1807	1813	1830	1846	1835	1821
5 FOOD, FEED, BEVERAGES & TOBACCO	3787	3869	3878	3881	3934	3938	3959
6 TEXTILES & CLOTHING	2031	2077	2082	2066	2056	2024	2016
7 WOOD & FURNITURE	1671	1756	1782	1815	1854	1874	1894
8 PAPER, PRINTING & ALLIED INDUSTRIES	4031	4188	4242	4328	4427	4472	4512
9 PRIMARY METAL & METAL FABRICATING	4496	4717	4795	4856	4908	4877	4872
10 MOTOR VEHICLES & PARTS	2428	2824	2652	2689	2690	2690	2643
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	2891	2711	2771	2807	2831	2786	2786
12 ELECTRICAL PRODUCTS	1665	1717	1728	1719	1715	1686	1690
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	3870	3856	3952	4033	4133	4154	4233
14 NON-METALLIC MINERAL PRODUCTS	1087	1138	1169	1191	1207	1204	1227
15 NON-METALLIC MINERAL PRODUCTS	1008	1016	1000	976	953	911	897
TOTAL MANUFACTURING	28435	29567	30061	30328	30707	30605	30720
16 CONSTRUCTION	7432	8120	8407	8612	8785	8881	9187
17 ELECTRIC POWER, WATER & GAS UTILITIES	5241	5536	5737	5931	6196	6387	6660
TOTAL GOODS-PRODUCING INDUSTRIES	46746	51071	52086	52912	53637	54104	54919
18 TRANSPORTATION & STORAGE	6895	9260	9416	9569	9788	9878	10022
19 COMMUNICATION	6688	9391	9671	10552	11205	11782	12611
20 TRADE	17098	18813	19293	19690	20284	20751	21425
21 FINANCE, INSURANCE & REAL ESTATE	20698	21639	22203	22712	23284	23629	24540
22 OTHER SERVICE INDUSTRIES	22823	24036	24859	25630	26543	27172	28578
TOTAL SERVICE INDUSTRIES	79100	83138	85741	88152	91115	93208	97277
23 GOVERNMENT SECTOR	19477	15725	15972	16225	16479	16731	16992
TOTAL: ALL SECTORS	143323	149935	153799	157280	161431	164043	169189
(GROSS DOMESTIC PRODUCT AT FACTOR COST - REAL)							

Appendix Table 13

CANADA: EMPLOYMENT BY INDUSTRY

(THOUSANDS)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING								
2 FORESTRY	524	508	503	494	495	491	488	483
3 MINERAL FUEL MINES & WELLS	72	67	67	67	67	72	72	73
4 OTHER MINES & QUARRIES	155	148	149	149	156	51	52	52
5 FOOD, FEED, BEVERAGES & TOBACCO	289	282	282	283	287	287	287	287
6 TEXTILES & CLOTHING	222	208	202	206	212	214	214	210
7 WOOD & FURNITURE	138	133	133	133	133	133	133	133
8 PAPER, PRINTING & ALLIED INDUSTRIES	277	266	266	263	271	278	278	278
9 PRIMARY METAL & METAL FABRICATING	321	284	288	288	289	301	287	280
10 MOTOR VEHICLES & PARTS	88	84	84	100	106	107	102	100
11 WAREHOUSES & OTH. TRANSPORTATION EQUIP.	234	208	200	192	191	193	181	190
12 ELECTRICAL PRODUCTS	158	135	129	129	132	133	131	130
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	179	173	173	176	182	184	185	186
14 NON-METALLIC MINERAL PRODUCTS	62	56	55	57	62	62	60	61
15 OTHER MANUFACTURING INDUSTRIES	121	108	107	107	110	111	109	109
TOTAL MANUFACTURING	2120	1961	1928	1937	1992	2008	1991	1987
16 CONSTRUCTION	645	573	566	593	557	655	639	648
17 ELECTRIC POWER, WATER & GAS UTILITIES	119	117	118	121	125	127	130	131
TOTAL GOODS-PRODUCING INDUSTRIES	3677	3420	3376	3408	3541	3555	3529	3538
18 TRANSPORTATION & STORAGE	519	483	478	489	503	512	511	507
19 COMMUNICATION	266	257	259	268	282	293	302	309
20 TRADE	1878	1764	1785	1842	1947	2022	2089	2139
21 FINANCE, INSURANCE & REAL ESTATE	592	588	596	617	650	675	698	713
22 OTHER SERVICE INDUSTRIES	2749	2799	2838	2844	3091	3220	3345	3437
TOTAL SERVICE INDUSTRIES	6005	5897	5956	6189	6473	6721	6845	7104
23 GOVERNMENT SECTOR	1250	1268	1279	1302	1326	1350	1374	1399
TOTAL: ALL SECTORS	10933	10584	10616	10872	11245	11631	11853	12043

INSTITUTE FOR POLICY ANALYSIS, UNIVERSITY OF TORONTO
PRISMZA *** REVISED LO-TREND BASE CASE *** SEPT/82

Appendix Table 13 (cont'd.)

CANADA: EMPLOYMENT BY INDUSTRY
(YEAR-OVER-YEAR PER-CENT CHANGE)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING	-0.97	0.02	-2.29	-1.51	-0.17	-1.27	-2.34
2 FORESTRY	1.62	1.15	0.27	1.38	2.23	1.18	-0.39
3 MINERAL FUEL MINES & WELLS	-0.91	0.33	0.31	4.12	1.06	4.38	4.71
4 OTHER MINES & QUARRIES	2.10	4.38	0.88	1.91	2.32	1.19	-0.72
5 FOOD, FEED, BEVERAGES & TOBACCO	-0.16	0.90	-1.42	-1.14	0.78	-0.63	-1.10
6 TEXTILES & CLOTHING	-0.74	-0.60	-2.82	-3.38	-2.68	-3.75	-3.90
7 WOOD & FURNITURE	0.95	2.18	-1.89	0.12	-0.70	-0.26	-1.44
8 PAPER, PRINTING & ALLIED INDUSTRIES	-0.08	3.23	-0.61	0.55	1.36	-1.47	-5.75
9 PRIMARY METAL & METAL FABRICATING	-0.44	1.44	-2.57	-0.24	-0.73	-1.77	-4.22
10 MOTOR VEHICLES & PARTS	-2.43	0.21	-1.85	-2.50	-0.72	-3.38	-2.86
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	-2.98	0.45	-2.04	-2.64	-1.99	-2.87	-1.25
12 ELECTRICAL PRODUCTS	0.90	2.23	-0.32	-0.61	0.62	-0.81	-0.41
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	1.66	6.60	1.29	1.03	1.10	-0.41	-4.64
14 NON-METALLIC MINERAL PRODUCTS	-2.47	-1.19	-4.05	-4.41	-4.22	-5.84	-2.49
15 OTHER MANUFACTURING	-0.73	1.52	-1.14	-1.21	-0.39	-1.57	2.87
TOTAL MANUFACTURING	3.11	9.31	3.13	2.79	3.12	2.14	0.86
16 CONSTRUCTION	1.23	2.66	0.59	0.82	2.38	1.46	-0.93
17 ELECTRIC POWER, WATER & GAS UTILITIES	0.19	3.01	-0.23	-0.03	0.70	-0.32	-0.93
TOTAL GOODS-PRODUCING INDUSTRIES	-0.58	1.67	-1.09	-0.66	0.61	-0.55	-1.59
18 TRANSPORTATION & STORAGE	1.84	3.68	1.41	1.51	2.90	1.50	2.00
19 COMMUNICATION	1.92	3.69	1.46	1.47	3.06	2.60	1.83
20 FINANCE, INSURANCE & REAL ESTATE	1.73	3.06	0.79	1.13	1.98	1.32	1.71
21 FINANCE, INSURANCE & REAL ESTATE	2.68	3.95	2.31	2.84	3.85	3.13	3.68
22 OTHER SERVICE INDUSTRIES	2.09	3.61	1.63	1.87	3.07	2.50	2.54
TOTAL SERVICE INDUSTRIES	1.81	1.81	1.81	1.81	1.81	1.81	1.81
23 GOVERNMENT SECTOR	1.50	3.23	1.11	1.31	2.26	1.64	1.51
TOTAL: ALL SECTORS							

Appendix Table 13 (cont'd.)
CANADA: EMPLOYMENT BY INDUSTRY
(YEAR-OVER-YEAR PER-CENT CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	2.43	-2.85	-1.18	-1.83	0.27	-0.89	-0.57	-0.91
2 FORESTRY	-3.51	-6.37	-0.32	-0.46	9.22	1.70	1.25	1.24
3 MINERAL FUEL MINES & WELLS	14.02	5.17	0.74	-0.54	0.82	2.06	2.34	-0.04
4 OTHER MINES & QUARRIES	2.73	-4.22	0.31	-0.09	5.11	1.80	1.48	1.77
5 FOOD, FEED, BEVERAGES & TOBACCO	0.16	-2.63	0.17	0.44	1.21	-0.05	0.13	0.13
6 TEXTILES & CLOTHING	0.76	-6.97	-1.83	-1.63	2.23	0.12	-1.30	-0.73
7 WOOD & FURNITURE	-4.36	-9.48	-2.76	-2.19	3.43	-0.73	-1.28	-1.24
8 PAPER, PRINTING & ALLIED INDUSTRIES	1.89	-3.87	-0.29	-1.19	3.17	1.39	1.20	0.76
9 PRIMARY METAL & METAL FABRICATING	-1.81	-8.39	-0.29	-0.19	4.00	0.37	-1.07	0.13
10 MOTOR VEHICLES & PARTS	0.34	-1.28	-0.85	19.78	6.01	0.66	-4.30	-2.82
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	0.14	-11.22	-3.86	-3.90	-0.33	0.75	-0.82	-0.83
12 ELECTRICAL PRODUCTS	4.87	-15.05	-3.12	-1.25	2.01	0.87	-1.21	-1.04
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	4.27	-3.32	0.05	1.73	3.31	1.29	0.39	1.00
14 NON-METALLIC MINERAL PRODUCTS	-1.98	-9.84	-1.39	3.24	8.01	-1.04	-2.24	-1.09
15 OTHER MANUFACTURING INDUSTRIES	1.29	-10.41	-0.83	-0.17	2.14	1.00	-1.01	-0.26
TOTAL MANUFACTURING	0.69	-7.52	-1.66	0.49	2.82	0.82	-0.68	-0.20
16 CONSTRUCTION	4.14	-11.15	-1.26	4.89	10.78	-0.36	-2.39	1.39
17 ELECTRIC POWER, WATER & GAS UTILITIES	3.25	-2.02	1.05	2.38	3.52	2.13	1.63	1.22
TOTAL GOODS-PRODUCING INDUSTRIES	1.76	-7.00	-1.28	0.89	3.98	0.38	-0.72	0.16
18 TRANSPORTATION & STORAGE	-1.11	-6.89	-0.96	2.10	2.95	1.77	-0.10	-0.88
19 COMMUNICATION	1.92	-3.51	1.08	3.37	5.21	3.89	3.08	2.22
20 TRADE	2.39	-8.87	1.15	3.52	5.61	3.86	3.32	2.41
21 FINANCE, INSURANCE & REAL ESTATE	-2.57	-0.68	1.27	3.11	3.48	3.75	3.45	2.08
22 OTHER SERVICE INDUSTRIES	6.69	1.85	1.36	3.72	5.02	4.18	3.88	2.76
TOTAL SERVICE INDUSTRIES	3.44	-1.80	1.01	3.40	5.11	3.83	3.33	2.30
23 GOVERNMENT SECTOR	1.00	1.41	0.87	1.81	1.81	1.81	1.81	1.81
TOTAL: ALL SECTORS	2.59	-3.19	0.30	2.41	4.36	2.52	1.91	1.60

Appendix Table 13 (cont'd.)

CANADA: EMPLOYMENT BY INDUSTRY

(THOUSANDS)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING	478	478	468	461	460	454	443
2 FORESTRY	75	78	78	79	81	82	81
3 MINERAL FUEL MINES & WELLS	52	52	53	55	55	58	60
4 OTHER MINES & QUARRIES	168	175	177	180	184	186	185
5 FOOD, FEED, BEVERAGES & TOBACCO	287	290	285	282	284	283	279
6 TEXTILES & CLOTHING	207	205	200	193	188	182	174
7 WOOD & FURNITURE	135	136	136	135	135	134	131
8 PAPER, PRINTING & ALLIED INDUSTRIES	283	290	286	288	293	304	290
9 PRIMARY METAL & METAL FABRICATING	297	307	308	307	307	301	293
10 MOTOR VEHICLES & PARTS	186	186	182	178	175	169	162
11 TRANSPORTATION EQUIP.	126	127	124	121	119	115	112
12 ELECTRICAL PRODUCTS	187	192	191	190	192	190	188
13 CHEMICAL RUBBER & PETROLEUM PRODUCTS	62	66	67	68	68	68	68
14 NON-METALLIC MINERAL PRODUCTS	107	105	101	97	92	87	83
15 OTHER MANUFACTURING	1972	2002	1980	1956	1948	1918	1870
TOTAL MANUFACTURING	668	731	753	774	798	816	839
16 CONSTRUCTION	133	136	137	138	141	143	145
17 ELECTRIC POWER, WATER & GAS UTILITIES	3542	3649	3640	3638	3654	3652	3618
TOTAL GOODS-PRODUCING INDUSTRIES	904	912	907	904	907	904	896
18 TRANSPORTATION & STORAGE	315	326	331	336	344	350	357
19 COMMUNICATION	2180	2261	2294	2327	2398	2462	2507
20 TRADE	725	747	753	762	777	781	800
21 FINANCE, INSURANCE & REAL ESTATE	3529	3668	3753	3852	3953	4117	4269
22 OTHER SERVICE INDUSTRIES	7253	7515	7638	7780	8020	8220	8429
TOTAL SERVICE INDUSTRIES	1424	1450	1477	1503	1530	1558	1586
23 GOVERNMENT SECTOR	12224	12619	12759	12927	13219	13435	13639
TOTAL: ALL SECTORS							

Appendix Table 14

CANADA: OUTPUT PER EMPLOYEE BY INDUSTRY
(THOUSANDS OF 1971 DOLLARS)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	6	6	6	7	7	7	7	7
2 FORESTRY	10	10	10	10	10	10	10	10
3 MINERAL FUEL MINES & WELLS	30	29	30	30	30	30	31	31
4 OTHER MINES & QUARRIES	12	11	11	11	11	11	10	10
5 FOOD, FEED, BEVERAGES & TOBACCO	12	12	12	13	13	13	13	13
6 TEXTILES & CLOTHING	8	8	8	9	9	9	9	10
7 WOOD & FURNITURE	10	10	11	11	11	11	12	12
8 PAPER, PRINTING & ALLIED INDUSTRIES	13	13	13	13	13	14	14	14
9 PRIMARY METAL & METAL FABRICATING	14	14	14	14	14	14	15	15
10 MOTOR VEHICLES & PARTS	21	21	22	22	23	23	24	24
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	11	11	11	12	12	13	13	13
12 ELECTRICAL PRODUCTS	11	11	11	12	12	12	12	13
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	17	16	17	17	18	18	18	19
14 NON-METALLIC MINERAL PRODUCTS	16	16	16	16	16	16	17	17
15 OTHER MANUFACTURING INDUSTRIES	8	8	9	9	9	9	9	9
TOTAL MANUFACTURING	12	12	13	13	13	14	14	14
16 CONSTRUCTION	11	11	11	11	11	11	11	11
17 ELECTRIC POWER, WATER & GAS UTILITIES	33	33	34	35	36	36	37	38
TOTAL GOODS-PRODUCING INDUSTRIES	12	12	12	13	13	13	13	13
18 TRANSPORTATION & STORAGE	15	15	15	16	16	16	17	17
19 COMMUNICATION	20	21	22	23	23	24	25	26
20 TRADE	8	8	8	8	8	8	8	8
21 FINANCE, INSURANCE & REAL ESTATE	27	26	27	27	27	28	28	28
22 OTHER SERVICE INDUSTRIES	6	6	6	6	6	6	6	6
TOTAL SERVICE INDUSTRIES	10	10	10	10	10	11	11	11
23 GOVERNMENT SECTOR	11	11	11	11	11	11	11	11
TOTAL: ALL SECTORS (GROSS DOMESTIC PRODUCT AT FACTOR COST - REAL)	11	11	11	11	11	11	11	12

Appendix Table 14 (cont'd.)
CANADA: OUTPUT PER EMPLOYEE BY INDUSTRY
(YEAR-OVER-YEAR PER-CENT CHANGE)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING	2.60	2.29	2.42	2.08	1.59	1.14	2.79
2 FORESTRY	0.97	0.88	1.03	0.46	-0.09	-0.29	1.42
3 MINERAL FUEL MINES & WELLS	0.92	0.88	1.72	0.23	0.58	0.58	2.26
4 OTHER MINES & QUARRIES	-0.51	-0.63	-0.56	-0.93	-1.41	-1.74	-0.09
5 FOOD, FEED, BEVERAGES & TOBACCO	1.63	1.24	1.65	1.26	0.60	0.40	1.99
6 TEXTILES & CLOTHING	3.20	2.89	3.16	2.69	2.23	1.78	3.61
7 WOOD & FURNITURE	3.23	2.82	3.22	2.63	2.03	1.81	3.77
8 PAPER, PRINTING & ALLIED INDUSTRIES	1.87	1.46	1.93	1.45	0.92	0.67	2.37
9 PRIMARY METAL & METAL FABRICATING	2.09	1.63	2.09	1.52	1.05	0.85	2.63
10 MOTOR VEHICLES & PARTS	3.46	2.46	2.46	2.70	2.02	1.85	4.21
11 CLOTHING & OTH. TRANSPORTATION EQUIP.	4.05	4.40	4.40	3.40	2.91	1.85	4.21
12 ELECTRICAL PRODUCTS	2.83	2.63	2.78	2.17	1.73	1.23	3.17
13 CHEMICAL & ALLIED INDUSTRIES	2.96	2.78	2.83	2.32	1.85	1.31	3.19
14 NON-METALLIC MINERAL PRODUCTS	1.55	0.98	1.49	0.82	0.23	0.20	1.83
15 OTHER MANUFACTURING INDUSTRIES	2.39	2.02	2.56	2.16	1.88	1.56	3.22
TOTAL MANUFACTURING	2.61	2.42	2.81	2.16	1.65	1.25	2.94
16 CONSTRUCTION	0.81	-0.05	0.39	-0.34	-1.08	-1.02	0.56
17 ELECTRIC POWER, WATER & GAS UTILITIES	3.13	2.89	3.01	2.55	2.02	1.61	3.39
TOTAL GOODS-PRODUCING INDUSTRIES	2.12	1.70	2.22	1.65	1.04	0.82	2.46
18 TRANSPORTATION & STORAGE	2.82	2.39	2.80	2.31	1.87	1.44	3.14
19 COMMUNICATION	4.69	4.25	4.70	4.26	3.61	3.38	4.93
20 TRADE	1.13	0.81	1.08	0.58	-0.02	-0.34	1.39
21 FINANCE, INSURANCE & REAL ESTATE	1.67	1.44	1.80	1.15	0.52	0.16	2.11
22 OTHER SERVICE INDUSTRIES	1.25	1.31	1.10	0.45	-0.08	-0.74	1.80
TOTAL SERVICE INDUSTRIES	1.59	1.44	1.48	0.92	0.28	-0.20	1.78
23 GOVERNMENT SECTOR	-0.21	-0.20	-0.24	-0.22	-0.25	-0.28	-0.24
TOTAL: ALL SECTORS (GROSS DOMESTIC PRODUCT AT FACTOR COST - REAL)	1.48	1.34	1.45	0.95	0.37	-0.02	1.80

INSTITUTE FOR POLICY ANALYSIS, UNIVERSITY OF TORONTO
PRISMZA *** REVISED LO-TREND BASE CASE *** SEPT/82

Appendix Table 14 (cont'd.)

CANADA: OUTPUT PER EMPLOYEE BY INDUSTRY

(THOUSANDS OF 1971 DOLLARS)

	1988	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING	7	7	8	8	8	8	8
2 FORESTRY	10	11	11	11	11	11	11
3 MINERAL FUEL MINES & WELLS	31	31	32	32	32	33	33
4 OTHER MINES & QUARRIES	10	10	10	10	10	10	10
5 FOOD, FEED, BEVERAGES & TOBACCO	13	13	14	14	14	14	14
6 TEXTILES & CLOTHING	10	10	10	11	11	11	12
7 WOOD & FURNITURE	12	13	13	13	14	14	14
8 PAPER, PRINTING & ALLIED INDUSTRIES	14	14	15	15	15	15	16
9 PRIMARY METAL & METAL FABRICATING	15	15	16	16	16	16	17
10 MOTOR VEHICLES & PARTS	25	26	27	27	28	28	30
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	13	15	15	16	16	16	17
12 ELECTRICAL PRODUCTS	13	14	14	14	14	15	15
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	20	20	21	21	22	22	23
14 NON-METALLIC MINERAL PRODUCTS	17	17	17	18	18	18	18
15 OTHER MANUFACTURING INDUSTRIES	9	10	10	10	10	10	11
TOTAL MANUFACTURING	14	15	15	16	16	16	16
16 CONSTRUCTION	11	11	11	11	11	11	11
17 ELECTRIC POWER, WATER & GAS UTILITIES	40	41	42	43	44	45	46
TOTAL GOODS-PRODUCING INDUSTRIES	14	14	14	15	15	15	15
18 TRANSPORTATION & STORAGE	18	18	19	19	19	20	20
19 COMMUNICATION	28	28	30	31	33	34	35
20 TRADE	8	8	8	8	8	8	9
21 FINANCE, INSURANCE & REAL ESTATE	28	28	29	30	30	30	31
22 OTHER SERVICE INDUSTRIES	6	7	7	7	7	7	7
TOTAL SERVICE INDUSTRIES	11	11	11	11	11	11	12
23 GOVERNMENT SECTOR	11	11	11	11	11	11	11
TOTAL: ALL SECTORS (GROSS DOMESTIC PRODUCT AT FACTOR COST - REAL)	12	12	12	12	12	12	12

Appendix Table 14 (cont'd.)
CANADA: OUTPUT PER EMPLOYEE BY INDUSTRY
(YEAR-OVER-YEAR PER-CENT CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	7.33	-1.43	3.55	2.38	1.36	1.70	1.38	2.69
2 FORESTRY	0.53	-1.81	1.89	1.14	-0.35	0.13	-0.17	1.04
3 MINERAL FUEL MINES & WELLS	-19.32	-1.90	2.45	0.74	-0.28	0.69	0.41	1.23
4 OTHER MINES & QUARRIES	-6.56	-5.35	-0.10	-1.02	-1.69	-1.64	-1.98	-0.84
5 FOOD, FEED, BEVERAGES & TOBACCO	4.11	-1.60	2.45	1.49	0.39	0.83	0.50	1.68
6 TEXTILES & CLOTHING	0.47	-0.35	4.09	3.23	1.94	2.26	1.87	3.22
7 WOOD & FURNITURE	3.15	-0.12	4.14	3.33	1.98	2.32	1.98	3.29
8 PAPER, PRINTING & ALLIED INDUSTRIES	-3.25	-0.18	2.72	1.90	0.60	1.02	0.71	1.93
9 PRIMARY METAL & METAL FABRICATING	4.90	-0.98	2.84	2.10	0.77	1.18	0.88	2.10
10 MOTOR VEHICLES & PARTS	4.00	1.47	4.76	0.55	3.05	1.89	2.27	3.32
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	4.70	-2.13	4.76	0.55	3.05	1.89	2.27	3.32
12 ELECTRICAL PRODUCTS	3.56	-1.14	3.69	2.92	3.71	3.74	4.81	4.51
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	-1.38	-1.49	3.87	3.04	1.91	2.53	1.44	2.90
14 NON-METALLIC MINERAL PRODUCTS	5.61	-1.00	2.56	1.55	0.09	0.76	1.56	3.07
15 OTHER MANUFACTURING INDUSTRIES	5.89	-0.18	3.01	2.19	0.87	1.24	0.47	1.61
TOTAL MANUFACTURING	2.48	-0.76	3.38	3.01	1.48	1.68	1.26	2.83
16 CONSTRUCTION	3.61	-1.94	1.60	0.55	-0.97	-0.23	-0.57	0.64
17 ELECTRIC POWER, WATER & GAS UTILITIES	1.33	-1.16	4.12	3.18	1.99	2.26	1.81	3.20
TOTAL GOODS-PRODUCING INDUSTRIES	1.30	-0.99	3.16	2.52	0.90	1.50	1.10	2.27
18 TRANSPORTATION & STORAGE	3.50	-0.15	3.69	2.65	1.45	1.82	1.56	2.87
19 COMMUNICATION	6.04	1.91	5.56	4.49	3.21	3.66	3.39	4.70
20 TRADE	-0.13	-2.33	2.02	1.15	-0.08	0.20	-0.16	1.18
21 FINANCE, INSURANCE & REAL ESTATE	7.14	-1.73	2.34	1.40	0.20	0.61	0.22	1.64
22 OTHER SERVICE INDUSTRIES	0.89	-4.16	2.04	1.68	0.49	0.64	-0.05	1.32
TOTAL SERVICE INDUSTRIES	1.36	-2.55	2.60	1.77	0.61	0.81	0.29	1.83
23 GOVERNMENT SECTOR	0.81	0.34	0.62	-0.26	-0.43	-0.40	-0.34	-0.24
TOTAL: ALL SECTORS (GROSS DOMESTIC PRODUCT AT FACTOR COST - REAL)	1.40	-1.83	2.42	1.69	0.55	0.77	0.32	1.84

INSTITUTE FOR POLICY ANALYSIS, UNIVERSITY OF TORONTO
PRISM82A *** REVISED LO-TREND BASE CASE *** SEPT/82

Appendix Table 15.1

SUMMARY - PROVINCIAL ECONOMY

NEWFOUNDLAND

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	4360	4800	5479	6398	7505	8582	10890	13523
REAL PROVINCIAL GDP AT FACTOR COST	1659	1671	1667	1752	1845	1905	2002	2101
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	2.45	2.76	3.04	3.37	3.78	4.17	4.98	5.88
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	2,506	2,585	2,636	2,722	2,793	2,836	2,920	3,004
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	13,626	15,318	16,279	17,992	19,552	21,540	24,300	26,984
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	8,915	8,788	8,963	9,076	9,099	9,121	9,262	9,500
LABOUR FORCE ('000)	218	219	225	233	241	247	255	258
EMPLOYMENT ('000)	187	183	186	193	203	208	216	221
UNEMPLOYMENT RATE (%)	14.16	16.38	17.36	17.18	15.91	15.60	15.14	14.31
REAL DOMESTIC PRODUCT - MANUFACTURING	159	151	155	158	164	167	170	178
RDP - GOODS-PRODUCING INDUSTRIES	670	635	652	702	742	757	813	855
RDP - SERVICE INDUSTRIES	726	696	721	761	808	848	883	924

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.1 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

NEWFOUNDLAND

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	15641	17897	20125	22948	24936	28052	31605
REAL PROVINCIAL GDP AT FACTOR COST	2203	2301	2369	2438	2489	2538	2616
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	6.62	7.26	7.94	8.70	9.24	10.12	11.07
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	3.007	3.173	3.236	3.272	3.329	3.370	3.460
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	29.864	32.724	35.703	38.505	43.153	47.810	52.837
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	9.670	9.750	9.848	9.920	9.859	9.842	9.951
LABOUR FORCE ('000)	264	272	278	281	287	293	298
EMPLOYMENT ('000)	228	236	241	246	252	258	263
UNEMPLOYMENT RATE (%)	13.87	13.22	12.65	12.53	12.27	12.07	11.80
REAL DOMESTIC PRODUCT - MANUFACTURING	179	166	188	191	195	196	198
ROP - GOODS-PRODUCING INDUSTRIES	916	949	973	1002	1008	1028	1052
ROP - SERVICE INDUSTRIES	966	1024	1061	1094	1131	1158	1206

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.1 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

NEWFOUNDLAND

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	17.20	10.08	14.15	16.77	17.31	14.35	26.89	24.17
REAL PROVINCIAL GDP AT FACTOR COST	3.26	-3.44	3.44	5.12	5.33	3.21	5.09	4.98
DEFLATOR, PROV'L GDP AT FACTOR COST	8.86	12.49	10.32	10.68	12.31	10.28	19.36	18.06
REAL PERSONAL DISP. INCOME PER CAP.	0.04	3.14	1.99	3.63	2.26	1.54	2.93	2.90
ANNUAL WAGES & SALARIES PER EMPLOYEE	12.85	12.42	6.27	10.92	8.67	10.17	12.81	11.04
GDP AT FACTOR COST PER EMPLOYEE	1.84	-1.42	1.99	1.26	0.26	0.23	1.55	2.57
LABOUR FORCE	2.12	0.55	2.63	3.58	3.47	2.59	2.93	1.36
EMPLOYMENT	1.39	-2.05	1.42	3.81	5.05	2.98	2.49	2.95
UNEMPLOYMENT RATE (%) *	0.62	2.22	0.99	-0.18	-1.27	-0.31	-0.46	-0.83
REAL DOMESTIC PRODUCT - MANUFACTURING	3.57	-4.94	2.68	1.95	3.41	2.02	1.61	2.82
ROP - GOODS-PRODUCING INDUSTRIES	2.92	-5.22	4.28	6.08	5.77	1.99	7.34	6.40
ROP - SERVICE INDUSTRIES	4.26	-4.04	3.51	5.52	6.24	4.90	4.16	4.63

Appendix Table 15.1 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

NEWFOUNDLAND

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	15.67	14.42	12.45	14.03	8.66	12.49	12.67
REAL PROVINCIAL GDP AT FACTOR COST	4.84	4.46	2.93	2.92	1.94	2.12	3.08
DEFLATOR, PROV'L GDP AT FACTOR COST	12.63	9.64	9.38	9.55	6.29	9.48	9.40
REAL PERSONAL DISP. INCOME PER CAP.	3.09	2.45	1.98	1.12	1.76	1.22	2.86
ANNUAL WAGES & SALARIES PER EMPLOYEE	10.67	8.57	10.11	10.65	9.23	10.79	10.51
GDP AT FACTOR COST PER EMPLOYEE	1.80	0.82	1.01	0.73	-0.61	-0.17	1.10
LABOUR FORCE							
EMPLOYMENT	2.47	2.83	1.23	2.03	2.27	2.05	1.65
UNEMPLOYMENT RATE (%) *	2.99	3.61	1.90	2.17	2.57	2.28	1.96
	-0.44	-0.65	-0.57	-0.12	-0.26	-0.21	-0.27
REAL DOMESTIC PRODUCT - MANUFACTURING	2.64	3.71	1.32	1.48	1.98	0.57	1.11
RDP - GOODS-PRODUCING INDUSTRIES	5.96	3.59	2.49	3.01	0.54	1.97	2.35
RDP - SERVICE INDUSTRIES	4.59	5.96	3.61	3.13	3.34	2.40	4.16

Appendix Table 15.2

SUMMARY - PROVINCIAL ECONOMY

PRINCE EDWARD ISLAND

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	918	912	1009	1144	1301	1477	1679	1882
REAL PROVINCIAL GDP AT FACTOR COST	337	302	308	317	327	336	343	353
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	2.67	2.96	3.23	3.54	3.93	4.32	4.77	5.24
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	3.007	2.884	2.900	2.848	2.857	2.877	3.013	3.070
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	11.312	12.224	12.848	14.085	15.064	16.656	18.774	20.784
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	7.088	6.630	6.784	6.860	6.882	6.928	6.951	7.047
LABOUR FORCE ('000)	54	52	53	53	54	56	57	57
EMPLOYMENT ('000)	48	45	46	46	48	48	49	50
UNEMPLOYMENT RATE (%)	11.12	13.27	13.42	13.52	12.64	13.81	12.75	12.23
REAL DOMESTIC PRODUCT - MANUFACTURING	28	26	27	28	28	28	29	30
ROP - GOODS-PRODUCING INDUSTRIES	81	62	64	66	69	70	71	73
ROP - SERVICE INDUSTRIES	149	141	145	151	158	164	170	176

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
 - REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.2 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

PRINCE EDWARD ISLAND

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	2114	2389	2649	2982	3347	3746	4213
REAL PROVINCIAL GDP AT FACTOR COST	363	376	385	393	403	410	422
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	5.72	6.26	6.87	7.48	8.19	8.97	9.84
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	3,115	3,164	3,192	3,216	3,280	3,321	3,415
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	22,987	24,892	27,531	30,717	33,587	37,163	42,481
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	7,146	7,229	7,329	7,397	7,426	7,436	7,590
LABOUR FORCE ('000)	58	59	59	60	61	62	63
EMPLOYMENT ('000)	51	52	53	53	54	55	56
UNEMPLOYMENT RATE (%)	12.20	11.72	11.40	11.79	11.54	11.50	11.34
REAL DOMESTIC PRODUCT - MANUFACTURING	30	31	32	32	32	32	33
RDP - GOODS-PRODUCING INDUSTRIES	75	76	80	81	83	84	85
RDP - SERVICE INDUSTRIES	162	181	196	201	207	212	221

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.2 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

PRINCE EDWARD ISLAND

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	16.71	-0.73	10.74	13.30	13.73	13.53	13.68	12.74
REAL PROVINCIAL GDP AT FACTOR COST	5.82	-10.95	2.07	3.06	3.09	2.74	2.22	2.79
DEFLATOR, PROV'L GDP AT FACTOR COST	5.96	10.72	9.01	9.81	10.51	10.04	10.36	9.78
REAL PERSONAL DISP. INCOME PER CAP.	5.50	-4.09	0.56	1.70	0.27	0.67	1.22	1.88
ANNUAL WAGES & SALARIES PER EMPLOYEE	16.08	8.06	9.10	9.63	6.95	10.97	12.71	10.71
GDP AT FACTOR COST PER EMPLOYEE	7.49	-6.06	2.01	1.42	0.22	0.66	0.34	1.38
LABOUR FORCE	-0.21	-2.41	0.24	1.73	1.72	2.25	1.81	0.80
EMPLOYMENT	-0.53	-4.77	0.06	1.62	2.76	2.06	1.88	1.39
UNEMPLOYMENT RATE (%) *	0.29	2.15	0.16	0.10	-0.88	0.16	-0.06	-0.51
REAL DOMESTIC PRODUCT - MANUFACTURING	4.14	-5.34	2.69	2.44	2.66	1.73	1.14	2.47
RDP - GOODS-PRODUCING INDUSTRIES	17.28	-31.44	2.95	2.81	3.81	1.99	1.43	2.95
RDP - SERVICE INDUSTRIES	4.82	-5.43	2.50	4.45	4.37	4.09	3.17	3.56

Appendix Table 15.2 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

PRINCE EDWARD ISLAND

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	11.71	13.00	10.89	12.58	12.24	11.91	12.47
REAL PROVINCIAL GDP AT FACTOR COST	2.80	3.75	2.23	2.07	2.52	1.75	3.01
DEFLATOR, PROV'L GDP AT FACTOR COST	9.18	9.56	9.62	8.91	9.48	9.34	9.70
REAL PERSONAL DISP. INCOME PER CAP.	1.48	1.59	0.87	0.76	1.39	1.24	2.82
ANNUAL WAGES & SALARIES PER EMPLOYEE	10.46	8.43	10.60	11.57	10.65	12.28	11.24
GDP AT FACTOR COST PER EMPLOYEE	1.39	1.16	1.39	0.82	0.37	0.16	1.52
LABOUR FORCE	1.36	1.97	0.46	1.58	1.86	1.54	1.39
EMPLOYMENT	1.39	2.54	0.82	1.13	2.14	1.59	1.47
UNEMPLOYMENT RATE (%) *	-0.03	-0.49	-0.32	0.39	-0.24	-0.04	-0.16
REAL DOMESTIC PRODUCT - MANUFACTURING	2.02	3.03	0.94	0.72	1.42	0.02	1.00
GDP - GOODS-PRODUCING INDUSTRIES	2.84	4.21	1.72	1.66	2.46	0.96	1.98
GDP - SERVICE INDUSTRIES	3.53	4.87	2.86	2.56	3.13	2.21	4.26

Appendix Table 15.3

SUMMARY - PROVINCIAL ECONOMY

NOVA SCOTIA

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	7722	8013	8186	10694	12668	15038	17221	19620
REAL PROVINCIAL GDP AT FACTOR COST	2912	2671	2772	2908	3065	3200	3281	3398
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	2.47	2.76	3.04	3.35	3.81	4.30	4.75	5.22
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	3.146	3.077	3.104	3.191	3.241	3.285	3.335	3.416
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	14.753	16.302	17.245	18.972	20.444	22.649	25.393	28.108
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	8.832	8.565	8.788	8.950	9.050	9.176	9.217	9.362
LABOUR FORCE ('000)	367	361	365	373	383	393	402	408
EMPLOYMENT ('000)	330	312	315	325	339	349	356	363
UNEMPLOYMENT RATE (%)	10.17	13.56	13.47	12.93	11.63	11.34	11.40	11.05
REAL DOMESTIC PRODUCT - MANUFACTURING	392	337	358	381	411	425	435	453
ROP - GOODS-PRODUCING INDUSTRIES	1220	719	764	820	888	931	935	965
ROP - SERVICE INDUSTRIES	1402	1252	1298	1367	1447	1525	1590	1661

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

INSTITUTE FOR POLICY ANALYSIS, UNIVERSITY OF TORONTO
PRISM22A *** REVISED LO-TREND BASE CASE *** SEPT/82

Appendix Table 15.3 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

NOVA SCOTIA

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	22065	25128	28448	32682	36228	41164	45649
REAL PROVINCIAL GDP AT FACTOR COST	3516	3683	3759	3913	4010	4108	4254
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	5.69	6.22	6.85	7.52	8.11	8.92	9.77
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	3.473	3.547	3.593	3.635	3.707	3.762	3.887
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	30.898	33.685	37.217	41.380	45.475	50.724	56.278
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	9.506	9.638	9.782	9.908	9.933	9.985	10.120
LABOUR FORCE ('000)	418	426	430	438	446	455	463
EMPLOYMENT ('000)	370	382	388	395	404	412	420
UNEMPLOYMENT RATE (%)	10.91	10.29	9.80	9.73	9.54	9.40	9.20
REAL DOMESTIC PRODUCT - MANUFACTURING	469	483	507	519	524	541	553
RDP - GOODS-PRODUCING INDUSTRIES	997	1054	1089	1125	1134	1159	1188
RDP - SERVICE INDUSTRIES	1733	1829	1895	1958	2032	2088	2190

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.3 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE; * INDICATES CHANGE IN LEVELS)

NOVA SCOTIA

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	19.98	4.15	14.21	16.41	18.47	18.70	14.52	13.93
REAL PROVINCIAL GDP AT FACTOR COST	4.56	-8.26	3.77	4.92	5.38	4.42	2.54	3.54
DEFLATOR, PROV'L GDP AT FACTOR COST	9.43	12.03	9.86	10.44	13.53	12.91	10.43	9.88
REAL PERSONAL DISP. INCOME PER CAP.	1.97	-2.20	0.88	2.80	1.55	1.38	1.50	2.43
ANNUAL WAGES & SALARIES PER EMPLOYEE	14.51	10.50	5.79	10.01	7.76	10.79	12.11	10.69
GDP AT FACTOR COST PER EMPLOYEE	3.91	-3.03	2.61	1.84	1.12	1.38	0.45	1.57
LABOUR FORCE	1.08	-1.69	1.02	2.39	2.69	2.65	2.14	1.54
EMPLOYMENT	0.63	-5.40	1.13	3.03	4.22	2.98	2.08	1.94
UNEMPLOYMENT RATE (%) *	0.40	3.39	-0.10	-0.94	-1.30	-0.29	0.08	-0.35
REAL DOMESTIC PRODUCT - MANUFACTURING	5.74	-14.08	6.23	6.45	7.77	3.59	2.37	4.03
RDP - GOODS-PRODUCING INDUSTRIES	6.50	-12.38	6.28	7.38	8.22	4.93	0.34	3.24
RDP - SERVICE INDUSTRIES	4.52	-10.65	3.65	5.32	5.81	5.42	4.24	4.52

Appendix Table 15.3 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

NOVA SCOTIA

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	12.46	13.88	13.22	14.88	10.85	13.62	13.33
REAL PROVINCIAL GDP AT FACTOR COST	3.47	4.76	3.14	3.01	2.49	2.43	3.55
DEFLATOR, PROV'L GDP AT FACTOR COST	9.03	9.42	10.09	9.74	7.83	10.06	9.53
REAL PERSONAL DISP. INCOME PER CAP.	1.68	2.15	1.28	1.18	1.96	1.48	3.33
ANNUAL WAGES & SALARIES PER EMPLOYEE	10.28	9.57	10.48	11.18	9.90	11.54	10.95
GDP AT FACTOR COST PER EMPLOYEE	1.53	1.39	1.60	1.19	0.25	0.32	1.55
LABOUR FORCE	1.75	2.62	0.96	1.73	2.01	1.95	1.74
EMPLOYMENT	1.91	3.33	1.51	1.80	2.23	2.10	1.97
UNEMPLOYMENT RATE (%) *	-0.14	-0.62	-0.49	-0.06	-0.20	-0.14	-0.20
REAL DOMESTIC PRODUCT - MANUFACTURING	3.57	5.17	2.70	2.44	2.89	1.25	2.17
RDP - GOODS-PRODUCING INDUSTRIES	3.31	5.72	3.35	3.30	0.78	2.25	2.49
RDP - SERVICE INDUSTRIES	4.29	5.55	3.60	3.34	3.77	2.79	4.85

Appendix Table 15.4

SUMMARY - PROVINCIAL ECONOMY

NEW BRUNSWICK

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	6081	6615	7420	8463	9629	10915	12384	13937
REAL PROVINCIAL GDP AT FACTOR COST	2214	2118	2175	2258	2359	2431	2484	2558
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	2.61	2.90	3.16	3.45	3.81	4.16	4.55	4.96
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	2,841	2,852	2,863	2,921	2,960	2,983	3,020	3,080
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	13,945	15,430	16,311	17,868	19,197	21,084	23,487	25,859
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	8,458	8,261	8,445	8,578	8,614	8,661	8,672	8,790
LABOUR FORCE ('000)	296	299	303	311	318	325	331	336
EMPLOYMENT ('000)	262	256	258	263	274	281	286	291
UNEMPLOYMENT RATE (%)	11.64	14.33	15.13	15.25	13.86	13.77	13.60	13.24
REAL DOMESTIC PRODUCT - MANUFACTURING	338	316	324	330	343	350	354	364
GDP - GOODS-PRODUCING INDUSTRIES	687	648	660	680	710	721	724	743
ROP - SERVICE INDUSTRIES	1118	1053	1092	1149	1214	1269	1313	1363

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.4 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

NEW BRUNSWICK

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	15482	17444	19368	21941	24579	27486	30873
REAL PROVINCIAL GDP AT FACTOR COST	2637	2756	2825	2891	2970	3024	3120
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	5.38	5.85	6.37	6.88	7.48	8.12	8.87
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	3.121	3.160	3.206	3.225	3.288	3.317	3.408
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	28.368	30.724	33.751	37.258	40.838	45.231	49.823
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	8.508	9.018	9.132	9.206	9.231	9.224	9.346
LABOUR FORCE ('000)	341	348	351	356	363	369	374
EMPLOYMENT ('000)	296	306	309	314	322	328	334
UNEMPLOYMENT RATE (%)	13.14	12.19	11.81	11.83	11.33	11.10	10.78
REAL DOMESTIC PRODUCT - MANUFACTURING	373	388	393	399	406	408	412
RDP - GOODS-PRODUCING INDUSTRIES	764	804	820	835	854	861	878
RDP - SERVICE INDUSTRIES	1412	1484	1530	1573	1627	1665	1736

NOTE - NOMINA. VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

INSTITUTE FOR POLICY ANALYSIS, UNIVERSITY OF TORONTO
 PRISMZA *** REVISED LO-TREND BASE CASE *** SEPT/82
 Appendix Table 15.4 (cont'd.)
 SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

NEW BRUNSWICK

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	16.40	8.78	12.17	14.04	13.78	13.36	13.46	12.54
REAL PROVINCIAL GDP AT FACTOR COST	3.74	-4.35	2.71	3.81	10.48	3.03	2.17	3.03
DEFLATOR, PROV'L GDP AT FACTOR COST	6.56	11.37	8.88	9.24	10.42	9.21	9.38	8.97
REAL PERSONAL DISP. INCOME PER CAP.	1.51	0.37	0.41	2.00	1.35	0.77	1.25	1.87
ANNUAL WAGES & SALARIES PER EMPLOYEE	11.63	10.64	5.71	9.54	7.44	9.83	11.25	10.05
GDP AT FACTOR COST PER EMPLOYEE	1.67	-2.33	2.23	1.57	0.42	0.54	0.13	1.36
LABOUR FORCE								
EMPLOYMENT	2.53	1.01	1.41	2.36	2.48	2.25	1.83	1.23
UNEMPLOYMENT RATE (%) *	2.04	-2.08	0.47	2.21	4.04	2.48	2.04	1.65
	0.43	2.69	0.60	0.13	-1.29	-0.19	-0.17	-0.36
REAL DOMESTIC PRODUCT - MANUFACTURING								
ROP - GOODS-PRODUCING INDUSTRIES	-0.04	-6.35	2.30	1.95	3.80	2.15	1.23	2.70
ROP - SERVICE INDUSTRIES	4.28	-5.61	1.82	2.97	4.42	1.51	0.49	2.61
	4.31	-5.84	3.72	5.10	5.68	4.54	3.41	3.80

Appendix Table 15.4 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

NEW BRUNSWICK

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	11.08	12.67	11.03	13.28	12.02	11.83	12.69
REAL PROVINCIAL GDP AT FACTOR COST	3.04	4.51	2.52	2.33	2.75	1.81	3.16
DEFLATOR, PROV'L GDP AT FACTOR COST	8.34	8.85	8.85	8.08	8.58	8.55	9.20
REAL PERSONAL DISP. INCOME PER CAP.	1.32	1.91	0.83	0.58	1.94	0.90	2.76
ANNUAL WAGES & SALARIES PER EMPLOYEE	9.70	8.30	9.85	10.39	9.61	10.76	10.37
GDP AT FACTOR COST PER EMPLOYEE	1.35	1.23	1.27	0.80	0.27	-0.07	1.33
LABOUR FORCE	1.58	2.13	0.50	1.53	1.90	1.62	1.45
EMPLOYMENT	1.66	3.28	1.53	1.52	2.47	1.88	1.81
UNEMPLOYMENT RATE (%) *	-0.10	-0.95	-0.38	0.02	-0.48	-0.23	-0.32
REAL DOMESTIC PRODUCT - MANUFACTURING	2.42	4.02	1.43	1.42	1.88	0.36	1.02
RDP - GOODS-PRODUCING INDUSTRIES	2.83	5.21	2.03	1.86	2.21	0.88	1.92
RDP - SERVICE INDUSTRIES	3.64	5.08	3.08	2.81	3.40	2.37	4.26

INSTITUTE FOR POLICY ANALYSIS, UNIVERSITY OF TORONTO
PRISM2A *** REVISED LO-TREND BASE CASE *** SEPT/82

Appendix Table 15.5

SUMMARY - PROVINCIAL ECONOMY

QUEBEC

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	77164	77936	87695	98796	114396	128545	143368	160380
REAL PROVINCIAL GDP AT FACTOR COST	28383	25742	26487	27467	28553	29379	29811	30719
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	2.38	2.66	2.92	3.21	3.56	3.88	4.25	4.63
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	3.579	3.459	3.486	3.581	3.628	3.650	3.707	3.786
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	16.827	18.078	19.173	20.964	22.374	24.447	27.110	29.708
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	10.571	10.041	10.301	10.476	10.539	10.618	10.682	10.821
LABOUR FORCE (''000)	2997	2986	3007	3052	3103	3157	3202	3254
EMPLOYMENT (''000)	2685	2564	2571	2622	2709	2767	2808	2859
UNEMPLOYMENT RATE (%)	10.41	14.19	14.48	14.09	12.68	12.36	12.29	11.94
REAL DOMESTIC PRODUCT - MANUFACTURING	7064	6303	6475	6628	6870	7006	7039	7187
MDP - GOODS-PRODUCING INDUSTRIES	10468	9012	9364	9723	10116	10263	10268	10472
MDP - SERVICE INDUSTRIES	14874	13665	14048	14657	15348	16000	16501	17073

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.5 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

QUEBEC

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	177891	200840	222367	244498	271303	298197	328881
REAL PROVINCIAL GDP AT FACTOR COST	31500	32767	33414	33965	34673	35019	35920
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	5.01	5.45	5.92	6.39	6.93	7.52	8.21
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	3,826	3,914	3,928	3,945	4,028	4,053	4,184
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	32,806	34,816	37,962	41,739	45,559	50,268	55,208
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	10,987	11,141	11,301	11,406	11,450	11,441	11,619
LABOUR FORCE ('000)	3247	3297	3298	3317	3356	3385	3408
EMPLOYMENT ('000)	2867	2941	2957	2978	3028	3061	3091
UNEMPLOYMENT RATE (%)	11.70	10.79	10.30	10.23	9.76	9.57	9.30
REAL DOMESTIC PRODUCT - MANUFACTURING	7301	7550	7618	7554	7712	7649	7691
MDP - GOODS-PRODUCING INDUSTRIES	10658	11070	11190	11266	11282	11335	11401
MDP - SERVICE INDUSTRIES	17634	18455	18950	19393	19954	20318	21122

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix-Table 15.5 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE; * INDICATES CHANGE IN LEVELS)

QUEBEC

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	13.82	1.00	12.52	13.80	14.63	12.37	11.85	11.95
REAL PROVINCIAL GDP AT FACTOR COST	7.84	-9.31	2.90	3.70	3.95	2.90	1.81	2.70
DEFLATOR, PROV'L GDP AT FACTOR COST	7.19	11.60	9.83	9.90	10.75	9.25	8.32	9.03
REAL PERSONAL DISP. INCOME PER CAP.	1.60	-3.35	0.79	2.71	1.32	0.89	1.29	2.11
ANNUAL WAGES & SALARIES PER EMPLOYEE	12.61	7.44	6.06	9.34	6.73	9.26	10.90	9.58
GDP AT FACTOR COST PER EMPLOYEE	3.27	-5.02	2.59	1.70	0.60	0.75	0.32	1.59
LABOUR FORCE								
EMPLOYMENT	1.27	-0.31	0.64	1.50	1.67	1.76	1.40	0.69
UNEMPLOYMENT RATE (%) *	0.65	-4.52	0.30	1.96	3.34	2.13	1.48	1.10
	0.56	3.78	0.29	-0.39	-1.41	-0.31	-0.07	-0.36
REAL DOMESTIC PRODUCT - MANUFACTURING	3.49	-10.78	2.73	2.37	3.65	1.98	0.41	2.17
RDP - GOODS-PRODUCING INDUSTRIES	3.14	-13.91	3.90	3.84	4.04	1.45	0.03	2.01
RDP - SERVICE INDUSTRIES	5.01	-8.13	2.80	4.24	4.72	4.24	3.13	3.47

Appendix Table 15.5 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE; * INDICATES CHANGE IN LEVELS)

QUEBEC

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	10.98	12.84	10.72	9.95	10.86	9.91	11.63
REAL PROVINCIAL GDP AT FACTOR COST	2.54	4.02	1.97	1.65	2.08	1.00	2.57
DEFLATOR, PROV'L GDP AT FACTOR COST	8.28	8.67	8.63	7.93	8.50	8.54	9.12
REAL PERSONAL DISP. INCOME PER CAP.	1.33	2.02	0.38	0.43	2.11	0.61	3.25
ANNUAL WAGES & SALARIES PER EMPLOYEE	9.09	7.43	9.04	9.95	9.18	10.34	9.52
GDP AT FACTOR COST PER EMPLOYEE	1.54	1.40	1.44	0.93	0.39	-0.07	1.56
LABOUR FORCE	0.72	1.54	-0.01	0.63	1.17	0.86	0.68
EMPLOYMENT	0.98	2.59	0.53	0.72	1.69	1.07	1.00
UNEMPLOYMENT RATE (%) *	-0.24	-0.91	-0.48	-0.07	-0.46	-0.19	-0.28
REAL DOMESTIC PRODUCT - MANUFACTURING	1.58	3.42	0.90	0.47	0.75	-0.81	0.03
ROP - GOODS-PRODUCING INDUSTRIES	1.77	3.86	1.09	0.68	1.03	-0.42	0.58
ROP - SERVICE INDUSTRIES	3.29	4.66	2.68	2.34	2.69	1.83	3.95

Appendix Table 15.6

SUMMARY - PROVINCIAL ECONOMY

ONTARIO

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	127275	137637	153368	174244	201305	226436	252631	283647
REAL PROVINCIAL GDP AT FACTOR COST	46116	44807	45646	47424	48736	51264	52270	53807
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	2.39	2.67	2.93	3.21	3.55	3.88	4.24	4.63
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	4.175	4.159	4.114	4.176	4.228	4.238	4.264	4.328
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	17.467	19.494	20.590	22.463	23.985	26.186	28.398	31.729
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	11.017	10.940	11.181	11.363	11.412	11.482	11.495	11.656
LABOUR FORCE ('000)	4482	4516	4589	4692	4784	4877	4966	5023
EMPLOYMENT ('000)	4186	4085	4083	4174	4358	4465	4547	4615
UNEMPLOYMENT RATE (%)	6.60	9.30	11.03	11.06	8.90	8.45	8.43	8.10
REAL DOMESTIC PRODUCT - MANUFACTURING	13644	12816	12885	13411	13876	14266	14273	14560
ROP - GOODS-PRODUCING INDUSTRIES	18528	17524	17524	17985	18787	19102	19077	19456
ROP - SERVICE INDUSTRIES	22656	22283	23096	24285	25712	26865	27828	28910

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS

- REAL VALUES IN MILLIONS OF 1971 DOLLARS

INSTITUTE FOR POLICY ANALYSIS, UNIVERSITY OF TORONTO
PRISM32A *** REVISED LO-TREND BASE CASE *** SEPT/82

Appendix Table 15.6 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

ONTARIO

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	315503	357169	397511	437154	486082	534936	588303
REAL PROVINCIAL GDP AT FACTOR COST	55239	57594	58937	60008	61255	62053	63676
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	5.01	5.45	5.91	6.39	6.93	7.53	8.22
REAL PER-JOIAL DISP. INCOME PER CAP. (\$'000)	4.357	4.422	4.422	4.418	4.482	4.487	4.509
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	34.501	37.210	40.502	44.559	48.546	53.418	58.747
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	11.812	11.898	12.119	12.211	12.238	12.212	12.382
LABOUR FORCE ('000)	5080	5162	5199	5263	5339	5409	5475
EMPLOYMENT ('000)	4676	4816	4863	4914	5013	5081	5143
UNEMPLOYMENT RATE (%)	7.95	6.69	6.45	6.62	6.10	6.05	6.07
REAL DOMESTIC PRODUCT - MANUFACTURING	14758	15299	15538	15611	15742	15626	15606
RDP - GOODS-PRODUCING INDUSTRIES	19777	20583	20917	21058	21302	21222	21314
RDP - SERVICE INDUSTRIES	29846	31419	32352	33197	34238	34845	36405

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.6 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE; * INDICATES CHANGE IN LEVELS)

ONTARIO

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	13.90	8.14	11.43	13.61	15.53	12.49	11.66	12.19
REAL PROVINCIAL GDP AT FACTOR COST	4.06	-2.84	1.87	3.89	4.88	3.07	1.96	2.94
DEFLATOR, PROV'L GDP AT FACTOR COST	7.59	11.65	9.82	9.56	10.63	9.26	9.38	9.09
REAL PERSONAL DISP. INCOME PER CAP.	1.76	-0.36	-1.08	1.56	1.20	0.22	0.63	1.50
ANNUAL WAGES & SALARIES PER EMPLOYEE	10.11	11.61	5.82	9.59	6.80	9.15	10.59	9.57
GDP AT FACTOR COST PER EMPLOYEE	1.10	-0.70	2.20	1.63	0.44	0.61	0.12	1.40
LABOUR FORCE	2.64	0.76	1.61	2.26	1.95	1.95	1.82	1.15
EMPLOYMENT	2.93	-2.16	-0.32	2.23	4.42	2.45	1.84	1.52
UNEMPLOYMENT RATE (%) *	-0.27	2.70	1.73	0.03	-2.16	-0.45	-0.02	-0.34
REAL DOMESTIC PRODUCT - MANUFACTURING	3.77	-7.42	0.54	4.08	4.21	2.08	0.06	2.01
ROP - GOODS-PRODUCING INDUSTRIES	4.90	-5.42	0.00	2.63	4.46	1.67	-0.13	1.99
ROP - SERVICE INDUSTRIES	4.21	-1.64	3.48	5.32	5.88	4.49	3.56	3.89

Appendix Table 15.6 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE; * INDICATES CHANGE IN LEVELS)

ONTARIO

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	11.27	13.17	11.30	9.97	11.19	10.06	11.85
REAL PROVINCIAL GDP AT FACTOR COST	2.66	4.26	2.33	1.82	2.24	1.14	2.61
DEFLATOR, PROV'L GDP AT FACTOR COST	8.33	8.64	8.57	8.00	8.52	8.59	9.20
REAL PERSONAL DISP. INCOME PER CAP.	0.66	1.49	-0.00	-0.08	1.44	0.12	2.72
ANNUAL WAGES & SALARIES PER EMPLOYEE	9.05	7.54	9.12	9.75	8.95	10.04	9.98
GDP AT FACTOR COST PER EMPLOYEE	1.34	1.23	1.34	0.76	0.22	-0.22	1.40
LABOUR FORCE EMPLOYMENT	1.14	1.61	0.71	1.23	1.45	1.31	1.22
UNEMPLOYMENT RATE (%) *	1.30	2.99	0.98	1.09	2.02	1.36	1.20
	-0.15	-1.25	-0.24	0.17	-0.52	-0.05	0.01
REAL DOMESTIC PRODUCT - MANUFACTURING	1.36	3.66	1.56	0.47	0.84	-0.74	-0.13
ROP - GOODS-PRODUCING INDUSTRIES	1.65	4.08	1.62	0.73	1.16	-0.38	0.43
ROP - SERVICE INDUSTRIES	3.58	4.92	2.97	2.61	3.13	2.07	4.18

Appendix Table 15.7

SUMMARY - PROVINCIAL ECONOMY

MANITOBA

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	12574	13033	14595	16572	19211	21633	24184	27118
REAL PROVINCIAL GDP AT FACTOR COST	4552	4274	4392	4554	4757	4908	5013	5160
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	2.46	2.73	3.00	3.29	3.56	4.00	4.38	4.79
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	3.683	3.630	3.643	3.722	3.780	3.812	3.860	3.933
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	15.080	16.166	17.195	18.848	20.299	22.306	24.865	27.397
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	9.846	9.377	9.628	9.814	9.901	10.005	10.059	10.239
LABOUR FORCE ('000)	492	494	497	505	513	525	532	537
EMPLOYMENT ('000)	452	456	456	464	480	491	498	504
UNEMPLOYMENT RATE (%)	6.08	7.76	8.19	8.08	6.37	6.50	6.53	6.19
REAL DOMESTIC PRODUCT - MANUFACTURING	659	611	525	646	676	699	711	736
ROP - GOODS-PRODUCING INDUSTRIES	1371	1257	1288	1321	1383	1408	1417	1453
ROP - SERVICE INDUSTRIES	2622	2454	2535	2656	2793	2913	3003	3108

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.7 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

MANITOBA

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	30237	34345	38130	41859	46590	51280	57239
REAL PROVINCIAL GDP AT FACTOR COST	5305	5531	5656	5769	5909	5985	6156
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	5.19	5.66	6.15	6.64	7.22	7.84	8.55
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	3,982	4,063	4,077	4,097	4,175	4,204	4,330
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	30,059	32,576	35,756	38,462	43,271	47,941	52,925
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	10,419	10,593	10,774	10,903	10,973	10,995	11,188
LABOUR FORCE ('000)	544	553	556	564	572	578	584
EMPLOYMENT ('000)	509	522	525	529	539	545	550
UNEMPLOYMENT RATE (%)	6.37	5.62	5.56	6.11	5.78	5.78	5.72
REAL DOMESTIC PRODUCT - MANUFACTURING	756	792	810	824	839	840	849
RDP - GOODS-PRODUCING INDUSTRIES	1487	1554	1581	1603	1632	1636	1656
RDP - SERVICE INDUSTRIES	3211	3363	3454	3537	3643	3711	3851

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.7 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

MANITOBA

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	13.23	3.65	11.98	13.55	15.92	12.61	11.79	12.13
REAL PROVINCIAL GDP AT FACTOR COST	4.41	-6.11	2.75	3.70	4.45	3.17	2.14	2.95
DEFLATOR, PROV'L GDP AT FACTOR COST	7.05	11.22	9.77	9.87	11.07	9.37	9.59	9.18
REAL PERSONAL DISP. INCOME PER CAP.	2.87	-1.43	0.34	2.17	1.95	0.85	1.26	1.88
ANNUAL WAGES & SALARIES PER EMPLOYEE	13.13	7.20	6.12	9.87	7.70	9.89	11.47	10.18
GDP AT FACTOR COST PER EMPLOYEE	3.65	-4.76	2.68	1.93	0.89	1.05	0.54	1.79
LABOUR FORCE	1.35	0.39	0.52	1.62	1.64	2.24	1.62	0.77
EMPLOYMENT	0.74	-1.41	0.06	1.74	3.53	2.10	1.89	1.14
UNEMPLOYMENT RATE (%) *	0.57	1.69	0.42	-0.10	-1.71	0.14	0.03	-0.34
REAL DOMESTIC PRODUCT - MANUFACTURING	5.96	-7.29	2.36	3.24	4.72	3.40	1.68	3.49
RDP - GOODS-PRODUCING INDUSTRIES	7.36	-8.29	2.32	2.71	4.66	1.85	0.61	2.56
RDP - SERVICE INDUSTRIES	3.79	-6.41	3.33	4.78	5.15	4.28	3.11	3.49

Appendix Table 15.7 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

MANITOBA

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	11.50	13.59	11.02	9.78	11.30	10.07	11.62
REAL PROVINCIAL GDP AT FACTOR COST	2.81	4.26	2.26	1.98	2.43	1.35	2.78
DEFLATOR, PROV'L GDP AT FACTOR COST	8.47	8.94	8.76	7.98	8.62	8.65	9.08
REAL PERSONAL DISP. INCOME PER CAP.	1.26	2.02	0.36	0.49	1.89	0.71	2.99
ANNUAL WAGES & SALARIES PER EMPLOYEE	9.75	8.34	9.77	10.36	9.65	10.79	10.40
GDP AT FACTOR COST PER EMPLOYEE	1.76	1.67	1.70	1.20	0.65	0.20	1.75
LABOUR FORCE	1.23	1.73	0.48	1.37	1.42	1.15	0.95
EMPLOYMENT	1.03	2.54	0.54	0.79	1.78	1.15	1.02
UNEMPLOYMENT RATE (%) *	0.18	-0.75	-0.06	0.55	-0.33	0.00	-0.06
REAL DOMESTIC PRODUCT - MANUFACTURING	2.68	4.79	2.32	1.70	1.88	0.11	0.99
ROP - GOODS-PRODUCING INDUSTRIES	2.34	4.48	1.74	1.41	1.77	0.26	1.22
ROP - SERVICE INDUSTRIES	3.33	4.74	2.70	2.41	2.97	1.89	3.76

Appendix Table 15.8

SUMMARY - PROVINCIAL ECONOMY

SASNATCHEWAN

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	13973	14681	16413	18523	21304	24069	27073	30630
REAL PROVINCIAL GDP AT FACTOR COST	4239	4059	4193	4349	4566	4718	4836	5038
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	2.96	3.31	3.62	3.95	4.38	4.79	5.27	5.74
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	3.780	3.693	3.729	3.812	3.901	3.984	4.056	4.190
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	13.284	14.803	15.619	17.384	19.034	21.178	23.851	26.626
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	9.815	9.595	9.788	9.974	10.064	10.172	10.233	10.411
LABOUR FORCE ('000)	453	453	457	456	480	48*	501	510
EMPLOYMENT ('000)	432	426	428	436	454	464	473	484
UNEMPLOYMENT RATE (%)	4.63	5.96	6.27	6.48	5.55	5.45	5.64	5.16
REAL DOMESTIC PRODUCT - MANUFACTURING	260	244	252	260	274	283	289	300
GOODS-PRODUCING INDUSTRIES	1612	1532	1560	1588	1654	1672	1680	1752
ROP - SERVICE INDUSTRIES	2121	2012	2106	2224	2365	2488	2568	2706

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
* - REAL VALUES IN MILLIONS OF 1971 DOLLARS

INSTITUTE FOR POLICY ANALYSIS, UNIVERSITY OF TORONTO
PRISM82A *** REVISED LO-TREND BASE CASE *** SEPT/82

Appendix Table 15.8 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

SASKATCHEWAN

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	34319	39349	43899	48614	54926	60986	68673
REAL PROVINCIAL GDP AT FACTOR COST	3213	3460	3691	3799	3977	4112	4337
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	6.22	6.76	7.37	7.87	8.74	9.51	10.38
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	4.289	4.437	4.505	4.559	4.686	4.767	4.970
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	29.505	32.417	35.975	39.952	44.022	48.986	54.605
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	10.586	10.754	10.828	11.059	11.146	11.177	11.325
LABOUR FORCE ('000)	519	534	539	548	559	570	579
EMPLOYMENT ('000)	492	510	516	524	536	547	557
UNEMPLOYMENT RATE (%)	5.07	4.55	4.14	4.26	4.13	4.05	3.89
REAL DOMESTIC PRODUCT - MANUFACTURING	310	327	336	344	353	356	362
ROP - GOODS-PRODUCING INDUSTRIES	1794	1880	1911	1945	1976	1996	2039
ROP - SERVICE INDUSTRIES	2825	2991	3108	3217	3348	3449	3620

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.8 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

SASKATCHEWAN

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	7.14	5.07	11.80	12.86	15.01	12.98	12.48	13.14
REAL PROVINCIAL GDP AT FACTOR COST	2.48	-4.25	3.31	3.73	4.98	3.32	2.51	4.18
DEFLATOR, PROV'L GDP AT FACTOR COST	5.02	11.87	9.35	9.28	10.64	9.57	9.96	8.88
REAL PERSONAL DISP. INCOME PER CAP.	4.52	-2.55	0.97	2.23	2.32	2.15	1.81	3.30
ANNUAL WAGES & SALARIES PER EMPLOYEE	10.56	10.18	6.95	11.30	5.75	11.27	12.82	11.64
GDP AT FACTOR COST PER EMPLOYEE	0.44	-2.88	2.66	1.91	0.90	1.07	0.60	1.74
LABOUR FORCE	2.27	-0.03	0.97	2.01	3.02	2.13	2.10	1.90
EMPLOYMENT	2.04	-1.43	0.64	1.79	4.04	2.23	1.90	2.40
UNEMPLOYMENT RATE (%) *	0.21	1.33	0.31	0.21	-0.92	-0.10	0.18	-0.46
REAL DOMESTIC PRODUCT - MANUFACTURING	4.45	-6.19	3.26	3.39	5.11	3.42	2.13	3.97
RDP - GOODS-PRODUCING INDUSTRIES	0.83	-4.94	1.78	1.81	4.14	1.11	0.48	4.25
RDP - SERVICE INDUSTRIES	4.35	-5.15	4.66	5.62	6.31	5.20	4.02	4.57

Appendix Table 15.8 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

SASKATCHEWAN

	1988	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	12.04	14.66	11.56	10.74	12.98	11.03	12.60
REAL PROVINCIAL GDP AT FACTOR COST	3.47	5.11	2.95	2.60	3.06	2.26	3.69
DEFLATOR, PROV'L GDP AT FACTOR COST	8.33	9.04	8.70	8.16	9.69	8.76	9.11
REAL PERSONAL DISP. INCOME PER CAP.	2.25	3.45	1.54	1.43	2.55	1.73	4.25
ANNUAL WAGES & SALARIES PER EMPLOYEE	10.81	9.87	10.58	11.06	10.19	11.28	11.47
GDP AT FACTOR COST PER EMPLOYEE	1.68	1.59	1.62	1.19	0.78	0.28	1.87
LABOUR FORCE	1.64	2.91	0.87	1.71	2.12	1.89	1.62
EMPLOYMENT	1.76	3.47	1.31	1.59	2.25	1.97	1.79
UNEMPLOYMENT RATE (%) *	-0.11	-0.51	-0.41	0.12	-0.12	-0.08	-0.17
REAL DOMESTIC PRODUCT - MANUFACTURING	3.34	5.36	2.71	2.34	2.62	0.91	1.77
RDP - GOODS-PRODUCING INDUSTRIES	2.42	4.78	1.65	1.79	1.61	0.97	1.99
RDP - SERVICE INDUSTRIES	4.40	5.90	3.88	3.52	4.08	3.02	4.94

Appendix Table 15.9

SUMMARY - PROVINCIAL ECONOMY

ALBERTA

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	46572	51192	56471	62323	77103	88289	98516	111918
REAL PROVINCIAL GDP AT FACTOR COST	14275	13798	14208	14887	15761	16384	16533	17421
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	3.06	3.49	3.86	4.22	4.64	5.12	5.62	6.11
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	4.387	4.294	4.302	4.410	4.542	4.629	4.682	4.786
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	17.157	19.441	20.952	23.393	25.615	28.622	32.322	35.890
GDP AT FACTOR COST PER EMPLOYEE (\$11 '000)	13.084	12.959	13.280	13.485	13.511	13.625	13.705	13.914
LABOUR FORCE ('000)	1137	1146	1168	1200	1243	1277	1312	1338
EMPLOYMENT ('000)	1093	1085	1077	1104	1167	1202	1228	1252
UNEMPLOYMENT RATE (%)	3.82	7.11	7.81	8.02	6.17	5.83	6.47	6.43
REAL DOMESTIC PRODUCT - MANUFACTURING	1246	1179	1229	1287	1371	1429	1468	1537
ROP - GOODS-PRODUCING INDUSTRIES	5964	5217	5326	5433	5765	5912	5963	6098
ROP - SERVICE INDUSTRIES	7271	7074	7423	7859	8365	8806	9170	9584

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.9 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

ALBERTA

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	125483	144674	162265	182257	207849	232196	264383
REAL PROVINCIAL GDP AT FACTOR COST	18064	19114	19752	20429	21270	21860	22818
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	6.61	7.20	7.83	8.52	9.33	10.14	11.09
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	4.848	5.013	5.067	5.128	5.275	5.334	5.565
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	39.890	43.749	48.458	53.820	59.390	65.909	73.412
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	14.118	14.283	14.483	14.635	14.706	14.722	14.975
LABOUR FORCE ('000)	1370	1416	1438	1471	1513	1548	1592
EMPLOYMENT ('000)	1280	1338	1364	1396	1446	1485	1524
UNEMPLOYMENT RATE (%)	6.64	5.51	5.16	5.12	4.42	4.08	3.85
REAL DOMESTIC PRODUCT - MANUFACTURING	1602	1706	1768	1824	1886	1917	1966
RDP - GOODS-PRODUCING INDUSTRIES	6254	6728	6923	7162	7472	7639	7905
RDP - SERVICE INDUSTRIES	5994	10569	10968	11360	11640	12211	12848

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.9 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

ALBERTA

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	15.93	9.02	14.22	13.45	16.24	14.51	12.72	12.46
REAL PROVINCIAL GDP AT FACTOR COST	4.58	-3.34	3.69	4.05	5.87	3.95	2.74	3.49
DEFLATOR, PROV'L GDP AT FACTOR COST	10.25	14.33	10.62	9.24	9.84	10.28	9.79	8.81
REAL PERSONAL DISP. INCOME PER CAP.	3.11	-2.13	0.20	2.51	2.99	1.03	1.14	2.22
ANNUAL WAGES & SALARIES PER EMPLOYEE	11.39	13.31	7.82	11.60	9.50	11.74	12.82	11.35
GDP AT FACTOR COST PER EMPLOYEE	-1.31	-0.73	2.55	1.47	0.19	0.92	0.51	1.32
LABOUR FORCE	6.10	0.82	1.87	2.79	3.59	2.73	2.81	1.88
EMPLOYMENT	5.97	-2.63	1.12	2.55	5.67	3.00	2.22	1.94
UNEMPLOYMENT RATE (%) *	0.12	3.29	0.69	0.22	-1.85	-0.24	0.54	-0.05
REAL DOMESTIC PRODUCT - MANUFACTURING	-0.61	-5.31	4.17	4.78	6.53	4.19	2.70	4.70
RDP - GOODS-PRODUCING INDUSTRIES	1.86	-6.24	2.09	2.01	6.11	2.56	0.87	2.26
RDP - SERVICE INDUSTRIES	6.70	-2.71	4.94	5.87	6.44	5.28	4.13	4.52

Appendix Table 15.9 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

ALBERTA

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	12.12	15.29	12.16	12.38	13.98	11.71	13.86
REAL PROVINCIAL GDP AT FACTOR COST	3.69	5.81	3.33	3.43	4.12	2.77	4.39
DEFLATOR, PROV'L GDP AT FACTOR COST	6.13	8.96	8.69	8.89	9.45	8.74	9.39
REAL PERSONAL DISP. INCOME PER CAP.	1.29	3.41	1.06	1.22	2.85	1.12	4.34
ANNUAL WAGES & SALARIES PER EMPLOYEE	10.84	9.67	10.76	11.06	10.35	10.98	11.28
GDP AT FACTOR COST PER EMPLOYEE	1.47	1.17	1.40	1.08	0.49	0.11	1.72
LABOUR FORCE	2.43	3.34	1.54	2.31	2.85	2.30	2.17
EMPLOYMENT	2.20	4.59	1.91	2.35	3.61	2.65	2.62
UNEMPLOYMENT RATE (%) *	0.21	-1.13	-0.34	-0.04	-0.71	-0.34	-0.43
REAL DOMESTIC PRODUCT - MANUFACTURING	4.28	6.49	3.60	3.18	3.41	1.65	2.94
MDP - GOODS-PRODUCING INDUSTRIES	3.21	6.88	2.90	3.46	4.33	2.23	3.49
MDP - SERVICE INDUSTRIES	4.27	5.76	3.76	3.57	4.23	3.14	5.21

INSTITUTE FOR POLICY ANALYSIS, UNIVERSITY OF TORONTO
PRISMGA *** REVISED LO-TREND BASE CASE *** SEPT/82

Appendix Table 15.10

SUMMARY - PROVINCIAL ECONOMY

BRITISH COLUMBIA

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	41181	42878	43802	58437	68672	78301	88474	100223
REAL PROVINCIAL GDP AT FACTOR COST	14626	14922	14344	15395	16325	16974	17473	18143
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	2.48	2.78	3.06	3.40	3.78	4.15	4.56	4.88
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	4.250	4.176	4.182	4.310	4.406	4.434	4.477	4.556
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	18.180	20.700	22.056	24.371	26.376	28.088	32.486	38.769
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	11.724	11.868	12.155	12.368	12.420	12.517	12.563	12.752
LABOUR FORCE ('000)	1337	1343	1369	1411	1452	1488	1538	1599
EMPLOYMENT ('000)	1247	1181	1196	1245	1314	1366	1381	1423
UNEMPLOYMENT RATE (%)	6.72	12.02	12.57	11.77	9.48	9.45	9.36	9.35
REAL DOMESTIC PRODUCT - MANUFACTURING	2287	2130	2187	2249	2367	2438	2482	2657
GDP - GOODS-PRODUCING INDUSTRIES	4717	4389	4536	4857	5178	5302	5360	5548
MDP - SERVICE INDUSTRIES	8238	7930	8263	8755	8323	8808	10206	10646

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.10 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

BRITISH COLUMBIA

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	112822	128626	146026	163050	181723	202794	229747
REAL PROVINCIAL GDP AT FACTOR COST	18924	18848	20498	21130	21907	22335	22701
DEFLATOR, PROV'L GDP AT FACTOR COST (71=1.0)	5.40	5.88	6.42	6.96	7.51	8.17	8.84
REAL PERSONAL DISP. INCOME PER CAP. (\$'000)	4.604	4.705	4.718	4.739	4.828	4.856	5.012
ANNUAL WAGES & SALARIES PER EMPLOYEE (\$'000)	39.252	42.559	46.734	51.524	56.384	62.289	68.786
GDP AT FACTOR COST PER EMPLOYEE (\$71 '000)	12.838	13.088	13.277	13.400	13.431	13.428	13.640
LABOUR FORCE ('000)	1609	1652	1678	1718	1760	1799	1836
EMPLOYMENT ('000)	1459	1515	1544	1577	1624	1663	1701
UNEMPLOYMENT RATE (%)	9.36	8.25	8.01	8.21	7.74	7.56	7.37
REAL DOMESTIC PRODUCT - MANUFACTURING	3649	2788	2856	2823	3000	3034	3083
MDP - GOODS-PRODUCING INDUSTRIES	9757	6129	6328	6528	6693	6832	7033
MDP - SERVICE INDUSTRIES	11077	11685	12092	12478	12843	13287	13804

NOTE - NOMINAL VALUES IN MILLIONS OF CURRENT DOLLARS
- REAL VALUES IN MILLIONS OF 1971 DOLLARS

Appendix Table 15.10 (cont'd.)

SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE: * INDICATES CHANGE IN LEVELS)

BRITISH COLUMBIA

	1981	1982	1983	1984	1985	1986	1987	1988
PROVINCIAL GROSS DOMESTIC PRODUCT	12.80	6.55	13.50	17.74	17.52	14.02	12.99	13.28
REAL PROVINCIAL GDP AT FACTOR COST	3.72	-4.20	3.72	5.85	6.04	3.98	2.94	3.83
DEFLATOR, PROV'L GDP AT FACTOR COST	7.23	11.70	9.84	11.10	11.11	9.81	9.74	9.25
REAL PERSONAL DISP. INCOME PER CAP.	-0.61	-1.74	0.14	3.07	2.23	0.63	0.87	1.77
ANNUAL WAGES & SALARIES PER EMPLOYEE	7.21	13.86	6.60	10.46	8.22	10.28	11.58	10.21
GDP AT FACTOR COST PER EMPLOYEE	-0.89	1.14	2.42	1.76	0.41	0.78	0.37	1.51
LABOUR FORCE	4.86	0.43	1.81	3.07	2.94	3.14	2.71	2.03
EMPLOYMENT	4.71	-3.28	1.27	4.02	5.61	3.17	2.56	2.29
UNEMPLOYMENT RATE (%) *	-0.04	3.30	0.55	-0.81	-2.28	-0.02	0.13	-0.23
REAL DOMESTIC PRODUCT - MANUFACTURING	0.18	-6.83	3.64	2.84	5.28	3.00	1.80	3.39
RDP - GOODS-PRODUCING INDUSTRIES	1.47	-6.86	3.35	7.08	6.64	2.37	1.10	3.51
RDP - SERVICE INDUSTRIES	5.29	-3.98	4.20	5.95	6.48	5.20	4.06	4.30

Appendix Table 15.10 (cont'd.)
SUMMARY - PROVINCIAL ECONOMY

(PERCENTAGE CHANGE; * INDICATES CHANGE IN LEVELS)

BRITISH COLUMBIA

	1989	1990	1991	1992	1993	1994	1995
PROVINCIAL GROSS DOMESTIC PRODUCT	12.57	14.89	12.65	11.56	11.45	11.60	13.29
REAL PROVINCIAL GDP AT FACTOR COST	3.76	5.44	3.28	3.08	3.20	2.42	3.88
DEFLATOR, PROV'L GDP AT FACTOR COST	8.47	9.02	9.04	8.43	7.86	8.86	9.24
REAL PERSONAL DISP. INCOME PER CAP.	1.06	2.19	0.27	0.44	1.85	0.61	3.22
ANNUAL WAGES & SALARIES PER EMPLOYEE	9.74	8.42	9.81	10.25	9.43	10.47	10.43
GDP AT FACTOR COST PER EMPLOYEE	1.46	1.23	1.27	0.92	0.23	-0.02	1.58
LABOUR FORCE EMPLOYMENT	2.28	2.89	1.62	2.36	2.44	2.25	2.06
*UNEMPLOYMENT RATE (%) *	2.28	4.15	1.89	2.14	2.96	2.44	2.27
	0.02	-1.11	-0.24	0.19	-0.47	-0.16	-0.18
REAL DOMESTIC PRODUCT - MANUFACTURING	3.21	5.27	2.44	2.24	2.62	1.18	1.61
RDP - GOODS-PRODUCING INDUSTRIES	3.76	6.46	3.25	3.17	2.93	2.07	2.95
RDP - SERVICE INDUSTRIES	4.05	5.49	3.48	3.19	3.73	2.66	4.64

INSTITUTE FOR POLICY ANALYSIS, UNIVERSITY OF TORONTO
PRISM32A *** REVISED LO-TREND BASE CASE *** SEPT/82

Appendix Table 16.1
REAL DOMESTIC PRODUCT BY INDUSTRY
(NOVA SCOTIA)

(MILLIONS OF 1971 DOLLARS)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	85	78	83	86	91	91	92	93
2 FORESTRY	13	12	12	12	12	12	12	13
3 MINERAL FUEL MINES & WELLS	11	12	12	12	12	55	56	57
4 OTHER MINES & QUARRIES	35	25	27	28	31	31	31	31
5 FOOD, FEED, BEVERAGES & TOBACCO	109	104	108	110	112	113	114	117
6 TEXTILES & CLOTHING	22	21	21	22	23	24	24	25
7 WOOD & FURNITURE	17	13	14	17	17	17	17	18
8 PAPER, PRINTING & ALLIED INDUSTRIES	78	61	67	71	78	80	82	84
9 PETROLEUM, METAL & METAL FABRICATING	28	26	26	26	28	28	28	29
10 MOTOR VEHICLES & PARTS	5	5	5	6	6	6	6	6
11 MACHINERY & OTHER TRANSPORTATION EQUIP.	31	27	27	27	28	29	29	31
12 ELECTRICAL PRODUCTS	14	6	8	10	12	13	13	14
13 CHEMICAL RUBBER & PETROLEUM PRODUCTS	73	62	71	82	93	101	107	116
14 NON-METALLIC MINERAL PRODUCTS	11	10	10	11	12	12	11	12
15 OTHER MANUFACTURING INDUSTRIES	3	2	3	3	3	3	3	3
TOTAL MANUFACTURING	392	337	358	381	411	425	435	453
16 CONSTRUCTION	191	174	187	211	218	218	205	211
17 ELECTRIC POWER, WATER & GAS UTILITIES	83	81	85	80	95	99	103	108
TOTAL GOODS-PRODUCING INDUSTRIES	620	719	764	820	888	931	935	963
18 TRANSPORTATION & STORAGE	185	172	177	185	184	202	205	210
19 COMMUNICATION	133	131	140	151	163	176	188	201
20 FINANCE	382	248	255	266	281	296	308	322
21 FINANCE, INSURANCE & REAL ESTATE	370	360	373	382	414	435	454	473
22 OTHER SERVICE INDUSTRIES	351	342	353	373	394	416	435	455
TOTAL SERVICE INDUSTRIES	1402	1282	1288	1387	1447	1525	1590	1661
23 GOVERNMENT SECTOR	690	700	710	721	731	744	757	771
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	2812	2671	2773	2908	3065	3200	3281	3398

Appendix Table 16.1 (cont'd.)

REAL DOMESTIC PRODUCT BY INDUSTRY
NOVA SCOTIA

(MILLIONS OF 1971 DOLLARS)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING	95	97	97	97	98	98	98
2 FORESTRY	13	13	14	14	14	14	14
3 MINERAL FUEL MINES & WELLS	57	58	65	76	65	75	76
4 OTHER MINES & QUARRIES	31	33	33	33	33	33	33
5 FOOD, FEED, BEVERAGES & TOBACCO	119	121	122	122	124	125	126
6 TEXTILES & CLOTHING	25	26	26	25	25	25	25
7 WOOD & FURNITURE	18	19	19	20	20	20	21
8 PAPER, PRINTING & ALLIED INDUSTRIES	87	91	92	95	97	99	100
9 PRIMARY METAL & METAL FABRICATING	28	30	31	31	32	31	31
10 MOTOR VEHICLES & PARTS	6	6	7	7	7	7	7
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	31	33	33	34	34	33	33
12 ELECTRICAL PRODUCTS	14	15	16	16	16	17	17
13 CHEMICAL & ALLIED PRODUCTS	125	136	145	153	162	168	176
14 NON-FERROUS METAL PRODUCTS	12	12	12	12	14	14	14
15 OTHER MANUFACTURING INDUSTRIES	3	3	3	3	3	3	3
TOTAL MANUFACTURING	469	493	507	519	524	541	553
16 CONSTRUCTION	219	241	251	258	256	260	270
17 ELECTRIC POWER, WATER & GAS UTILITIES	113	119	124	128	134	136	144
TOTAL GOODS-PRODUCING INDUSTRIES	997	1054	1089	1125	1134	1159	1188
18 TRANSPORTATION & STORAGE	215	225	229	234	240	243	247
19 COMMUNICATION	215	223	247	262	278	293	314
20 TRADE	334	352	363	373	387	399	414
21 FINANCE, INSURANCE & REAL ESTATE	482	516	532	547	563	574	599
22 OTHER SERVICE INDUSTRIES	476	503	523	542	564	560	616
TOTAL SERVICE INDUSTRIES	1733	1829	1895	1958	2032	2088	2190
23 GOVERNMENT SECTOR	786	800	815	830	845	850	876
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	3516	3683	3799	3912	4010	4108	4254

Appendix Table 16.1 (cont'd.)
REAL DOMESTIC PRODUCT BY INDUSTRY
NOVA SCOTIA

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	24.32	-17.84	6.33	4.20	5.22	0.63	0.64	1.59
2 FORESTRY	-7.58	-1.88	-0.50	-3.66	2.45	-0.55	1.05	2.26
3 MINERAL FUEL MINES & WELLS	-10.11	3.17	3.22	0.20	151.32	80.28	1.18	1.18
4 OTHER MINES & QUARRIES	-24.01	-28.35	7.02	5.14	9.44	0.14	-0.54	1.18
5 FOOD, FEED, BEVERAGES & TOBACCO	4.37	-4.60	2.99	2.25	1.87	1.13	0.86	8.06
6 TEXTILES & CLOTHING	0.95	-3.35	0.10	4.90	4.92	3.40	0.52	2.46
7 WOOD & FURNITURE	-7.42	-26.36	7.20	6.44	16.43	1.68	0.78	2.12
8 PAPER, PRINTING & ALLIED INDUSTRIES	1.21	-22.14	8.64	6.51	9.41	2.86	2.35	3.13
9 PRIMARY METAL & METAL FABRICATIONS	2.14	-9.32	0.97	1.87	4.75	1.51	-0.24	2.19
10 MOTOR VEHICLES & PARTS	5.71	-12.61	-1.47	20.10	7.13	2.58	-2.11	0.42
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	8.01	-13.98	0.83	-0.29	2.87	4.62	2.04	3.72
12 ELECTRICAL PRODUCTS	0.16	-86.99	31.74	25.79	23.69	5.74	3.17	4.74
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	32.07	-15.18	11.71	14.72	14.35	8.01	6.31	8.36
14 NON-METALLIC MINERAL PRODUCTS	4.58	-10.77	1.21	4.51	1.18	0.69	-1.71	2.78
15 OTHER MANUFACTURING INDUSTRIES	9.10	-10.38	2.38	2.23	3.24	0.24	2.47	2.15
TOTAL MANUFACTURING	5.74	-14.08	6.23	6.45	7.77	3.59	2.37	4.03
16 CONSTRUCTION	13.76	-9.01	7.40	12.83	3.23	-0.12	-5.70	2.56
17 ELECTRIC POWER, WATER & GAS UTILITIES	0.53	-3.04	5.33	5.61	5.71	4.55	3.58	4.57
TOTAL GOODS-PRODUCING INDUSTRIES	6.50	-12.38	6.28	7.38	8.22	4.93	0.34	3.24
18 TRANSPORTATION & STORAGE	2.42	-7.19	3.10	4.81	4.53	4.04	1.77	2.29
19 COMMUNICATION	2.13	-1.83	6.61	7.96	8.53	7.83	6.69	7.12
20 TRADE	2.62	-3.18	2.83	4.38	5.55	5.23	4.11	4.48
21 FINANCE, INSURANCE & REAL ESTATE	4.57	-2.70	3.58	5.03	5.74	5.06	4.35	4.28
22 OTHER SERVICE INDUSTRIES	7.87	-2.74	3.38	5.54	5.60	5.61	4.48	4.72
TOTAL SERVICE INDUSTRIES	4.92	-10.65	3.65	5.32	5.81	5.42	4.24	4.52
23 GOVERNMENT SECTOR	1.66	1.48	1.40	1.54	1.35	1.81	1.80	1.87
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	4.56	-8.26	3.77	4.92	5.38	4.42	2.54	3.84

Appendix Table 16.1 (cont'd.)
REAL DOMESTIC PRODUCT BY INDUSTRY
NOVA SCOTIA

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING	1.45	2.16	-0.08	0.37	1.26	-0.31	0.03
2 FORESTRY	2.56	4.62	1.26	1.80	2.08	0.84	0.97
3 MINERAL FUEL MINES & WELLS	0.0	1.73	13.12	16.77	-15.19	16.61	1.04
4 OTHER MINES & QUARRIES	1.54	3.57	0.26	0.89	0.81	-0.64	-0.86
5 FOOD, FEED, BEVERAGES & TOBACCO	1.73	2.36	0.48	0.42	1.53	0.09	1.12
6 TEXTILES & CLOTHING	1.26	2.26	0.23	-0.80	-0.53	-1.55	-0.45
7 WOOD & FURNITURE	3.26	5.8	1.72	1.95	2.26	1.18	1.35
8 PAPER, PRINTING & ALLIED INDUSTRIES	3.26	4.32	1.72	2.23	2.03	1.43	1.30
9 PRIMARY METAL & METAL FABRICATING	1.97	4.32	1.50	1.23	1.03	0.09	-0.15
10 MOTOR VEHICLES & PARTS	-0.07	3.95	5.11	0.15	1.23	0.09	-0.15
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	1.59	4.58	2.28	1.33	0.81	-1.56	-0.36
12 ELECTRICAL PRODUCTS	2.95	5.86	3.32	1.98	2.21	0.69	2.86
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	7.52	9.03	6.21	5.61	5.92	3.78	5.10
14 NON-METALLIC MINERAL PRODUCTS	3.30	7.72	2.85	1.91	1.39	-0.16	1.91
15 OTHER MANUFACTURING INDUSTRIES	0.07	1.00	-1.40	-2.16	-2.24	-4.16	-1.38
TOTAL MANUFACTURING	3.57	5.17	2.70	2.44	2.89	1.25	2.17
16 CONSTRUCTION	4.17	9.82	4.05	2.86	-0.88	1.62	3.97
17 ELECTRIC POWER, WATER & GAS UTILITIES	4.51	5.75	3.74	3.50	4.57	3.21	4.40
TOTAL GOODS-PRODUCING INDUSTRIES	3.31	5.72	3.35	3.30	0.78	2.25	2.49
18 TRANSPORTATION & STORAGE	2.86	4.40	2.03	1.99	2.55	1.25	1.82
19 COMMUNICATION	6.82	8.14	5.24	5.11	6.25	5.22	7.11
20 TRADE	3.93	5.15	3.22	2.82	3.28	3.92	3.19
21 FINANCE, INSURANCE & REAL ESTATE	3.96	4.95	3.03	2.77	2.82	1.92	4.33
22 OTHER SERVICE INDUSTRIES	4.57	5.78	3.92	3.65	4.02	2.82	6.09
TOTAL SERVICE INDUSTRIES	4.29	5.55	3.60	3.34	3.77	2.79	4.85
23 GOVERNMENT SECTOR	1.90	1.82	1.81	1.86	1.78	1.81	1.83
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	3.47	4.76	3.14	3.01	2.49	2.42	3.55

Appendix Table 16.2

REAL DOMESTIC PRODUCT BY INDUSTRY
QUEBEC

(WILLIONS OF 1971 DOLLARS)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING								
2 FORESTRY	426	407	412	410	413	412	412	415
3 MINERAL FUEL MINES & WELLS	141	136	134	127	128	126	125	127
4 OTHER MINES & QUARRIES	269	209	217	205	211	205	199	195
5 FOOD, FEED, BEVERAGES & TOBACCO	997	946	969	985	988	1003	1006	1022
6 TEXTILES & CLOTHING	958	849	878	875	953	978	977	884
7 WOOD & FURNITURE	386	350	354	345	377	383	386	395
8 PAPER, PRINTING & ALLIED INDUSTRIES	1118	1056	1071	1070	1100	1117	1129	1149
9 METAL, METAL & METAL FABRICATING	1108	931	985	1011	1023	1088	1092	1122
10 MOTOR VEHICLES & PARTS	118	54	73	112	132	127	127	129
11 MACHINERY, ELECT. & TRANSPORTATION EQUIP.	725	629	634	631	648	677	680	714
12 ELECTRICAL PRODUCTS	426	353	348	347	353	356	351	351
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	748	710	732	761	795	815	825	852
14 NON-METALLIC MINERAL PRODUCTS	226	189	200	207	222	221	215	218
15 OTHER MANUFACTURING INDUSTRIES	255	226	229	232	237	240	238	241
TOTAL MANUFACTURING	7064	6303	6475	6628	6870	7006	7035	7187
16 CONSTRUCTION	1397	831	842	1104	1186	1152	1092	1088
17 ELECTRIC POWER, WATER & GAS UTILITIES	1171	1130	1184	1244	1308	1361	1402	1459
TOTAL GOODS-PRODUCING INDUSTRIES	10468	9012	9364	9723	10116	10263	10266	10472
18 TRANSPORTATION & STORAGE	1656	1524	1550	1621	1681	1733	1751	1777
19 COMMUNICATION	1098	1078	1148	1237	1340	1442	1535	1642
20 TRADE	3745	3410	3482	3585	3749	3882	3881	4100
21 FINANCE, INSURANCE & REAL ESTATE	3496	2920	2986	3111	3248	3374	3476	3564
22 OTHER SERVICE INDUSTRIES	4879	4733	4863	5092	5331	5569	5758	5970
TOTAL SERVICE INDUSTRIES	14874	13685	14048	14657	15349	16000	16501	17073
23 GOVERNMENT SECTOR	3041	3064	3076	3087	3088	3117	3143	3174
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	28383	25742	26487	27467	28553	29379	29911	30719

INSTITUTE FOR POLICY ANALYSIS, UNIVERSITY OF TORONTO
PRISMSEA *** REVISED LO-TREND BASE CASE *** SEPT/82

Appendix Table 16.2 (cont'd.)
REAL DOMESTIC PRODUCT BY INDUSTRY
QUEBEC

(MILLIONS OF 1971 DOLLARS)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING							
2 FORESTRY	418	424	421	419	421	417	414
3 MINERAL FUEL MINES & WELLS	128	132	132	132	134	133	132
4 OTHER MINES & QUARRIES	0	0	0	0	0	0	0
	194	196	192	189	185	178	173
5 FOOD, FEED, BEVERAGES & TOBACCO							
6 TEXTILES & CLOTHING	1034	1054	1053	1051	1062	1057	1063
7 WOOD & FURNITURE	1002	1018	1013	998	985	963	952
8 PAPER, PRINTING & ALLIED INDUSTRIES	406	426	432	441	451	456	462
9 PRIMARY METAL & METAL FABRICATING	1171	1206	1210	1223	1239	1240	1239
10 MOTOR VEHICLES & PARTS	1151	1214	1240	1263	1283	1281	1286
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	131	138	148	150	154	156	155
12 ELECTRICAL PRODUCTS	724	757	773	781	787	773	768
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	325	350	346	338	331	320	315
14 NON-METALLIC MINERAL PRODUCTS	875	913	930	941	957	955	965
15 OTHER MANUFACTURING INDUSTRIES	223	238	232	242	245	242	244
	238	238	232	225	217	206	201
TOTAL MANUFACTURING	7301	7550	7618	7654	7712	7649	7651
16 CONSTRUCTION							
17 ELECTRIC POWER, WATER & GAS UTILITIES	1100	1171	1181	1177	1168	1147	1151
	1517	1586	1646	1695	1763	1810	1879
TOTAL GOODS-PRODUCING INDUSTRIES	10658	11070	11190	11266	11382	11335	11401
18 TRANSPORTATION & STORAGE							
19 COMMUNICATION	1808	1873	1895	1917	1951	1959	1978
20 TRADE	1751	1891	2006	2121	2250	2363	2527
21 FINANCE, INSURANCE & REAL ESTATE	4204	4371	4456	4520	4628	4703	4826
22 OTHER SERVICE INDUSTRIES	3687	3832	3908	3972	4046	4079	4208
	6185	6489	6654	6863	7078	7214	7582
TOTAL SERVICE INDUSTRIES	17634	18455	18950	19393	19954	20318	21122
23 GOVERNMENT SECTOR							
	3208	3242	3274	3306	3336	3366	3397
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	31500	32767	33414	33965	34673	35019	35920

Appendix Table 16.2 (cont'd.)
REAL DOMESTIC PRODUCT BY INDUSTRY
QUEBEC

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	-6.45	-4.46	1.30	-0.49	0.61	-0.11	-0.11	0.84
2 FORESTRY	-0.69	-3.20	-1.84	-4.96	1.07	-1.83	-0.32	0.88
3 MINERAL FUEL MINES & WELLS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4 OTHER MINES & QUARRIES	-7.39	-23.72	5.71	-3.55	0.75	-2.40	-3.06	-1.39
5 FOOD, FEED, BEVERAGES & TOBACCO	4.26	-5.19	2.48	1.68	1.25	0.51	0.37	1.55
6 TEXTILES & CLOTHING	3.49	-11.42	3.46	4.17	4.18	2.67	-0.18	1.73
7 WOOD & FURNITURE	1.44	-9.31	3.46	4.17	4.18	2.67	-0.18	1.73
8 PAPER, PRINTING & ALLIED INDUSTRIES	6.10	-5.56	1.30	0.93	5.49	1.68	0.78	2.11
9 METALRY, METAL & METAL FABRICATING	-4.66	-15.80	5.80	-0.16	2.83	1.56	1.05	1.81
10 MOTOR VEHICLES & PARTS	6.94	-54.55	36.45	53.43	5.38	2.12	0.35	2.79
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	-1.29	-13.20	0.69	-0.43	8.92	4.25	-0.57	1.97
12 ELECTRICAL, ELECTRONIC & INSTRUMENT PRODUCTS	11.42	-17.15	-1.39	-0.24	1.81	4.45	1.87	3.54
13 CHEMICAL, RUBBER, PETROLEUM PRODUCTS	7.38	-5.05	3.07	3.96	4.41	0.82	-1.54	0.04
14 NON-METALLIC MINERAL PRODUCTS	14.86	-11.72	0.13	3.80	7.03	-0.33	1.21	3.34
15 OTHER MANUFACTURING INDUSTRIES	11.77	-11.33	1.29	1.15	2.15	1.38	-0.63	1.07
TOTAL MANUFACTURING	3.49	-10.78	2.73	2.37	3.65	1.88	0.41	2.17
16 CONSTRUCTION	8.01	-40.48	13.34	17.20	7.36	-2.82	-5.19	-0.41
17 ELECTRIC POWER, WATER & GAS UTILITIES	2.56	-3.53	4.80	5.07	5.17	4.02	3.05	4.03
TOTAL GOODS-PRODUCING INDUSTRIES	3.14	-13.91	3.90	3.84	4.04	1.45	0.03	2.01
18 TRANSPORTATION & STORAGE	2.34	-7.98	2.32	3.96	3.65	3.15	1.00	1.50
19 COMMUNICATION	8.09	-1.86	6.47	7.77	8.30	7.62	6.48	6.92
20 FINANCE	2.42	-8.94	2.11	3.26	4.27	3.56	2.53	3.00
21 FINANCE, INSURANCE & REAL ESTATE	4.43	-16.47	2.59	3.85	4.27	3.84	3.04	3.11
22 OTHER SERVICE INDUSTRIES	7.79	-2.99	2.74	4.71	4.69	4.46	3.40	3.69
TOTAL SERVICE INDUSTRIES	5.01	-8.13	2.80	4.34	4.72	4.24	3.13	3.47
23 GOVERNMENT SECTOR	1.61	0.75	0.37	0.38	0.02	0.93	0.86	0.96
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	3.94	-9.31	2.80	3.70	3.95	2.90	1.81	2.70

Appendix Table 16.2 (cont'd.)
 REAL DOMESTIC PRODUCT BY INDUSTRY
 QUEBEC

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING	0.70	1.39	-0.82	-0.37	0.51	-1.05	-0.71
2 FORESTRY	1.18	3.21	-0.11	0.43	0.71	-0.53	-0.37
3 MINERAL FUEL MINES & WELLS	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4 OTHER MINES & QUARRIES	-1.05	1.02	-2.31	-1.70	-1.79	-3.21	-3.44
5 FOOD, FEED, BEVERAGES & TOBACCO	1.21	1.86	-0.08	-0.18	1.10	-0.52	0.58
6 TEXTILES & CLOTHING	0.57	1.56	-0.48	-1.50	-1.23	-2.24	-1.15
7 WOOD & FURNITURE	1.93	5.17	1.57	1.95	2.26	1.18	1.35
8 PAPER, PRINTING & ALLIED INDUSTRIES	1.93	2.96	0.37	1.06	1.32	0.06	-0.10
9 PRIMARY METAL & METAL FABRICATING	2.56	5.48	2.18	1.81	1.60	-0.13	0.40
10 MOTOR VEHICLES & TRUCKS	1.42	5.47	6.60	1.53	2.66	1.37	-0.50
11 ELECTRICAL, ELECTRONIC & TRANSPORTATION EQUIP.	1.41	4.49	2.09	1.13	0.70	-1.77	-0.51
12 ELECTRICAL PRODUCTS	-1.68	1.39	-1.18	-2.18	-2.00	-3.51	-1.44
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	2.71	4.29	1.84	1.19	1.71	-0.15	1.04
14 NON-METALLIC MINERAL PRODUCTS	2.20	6.57	1.76	0.83	0.31	-1.22	0.83
15 OTHER MANUFACTURING INDUSTRIES	-0.99	-0.07	-2.45	-3.20	-3.27	-5.18	-2.42
TOTAL MANUFACTURING	1.58	3.42	0.90	0.47	0.75	-0.81	0.03
16 CONSTRUCTION	1.08	6.49	0.83	-0.31	-0.81	-1.78	0.40
17 ELECTRIC POWER, WATER & GAS UTILITIES	3.97	5.19	3.19	2.95	4.01	2.66	3.83
TOTAL GOODS-PRODUCING INDUSTRIES	1.77	3.86	1.09	0.68	1.03	-0.42	0.58
18 TRANSPORTATION & STORAGE	1.75	3.80	1.19	1.13	1.80	0.38	1.00
19 COMMUNICATION	6.65	8.00	6.08	5.72	6.09	5.04	6.93
20 TRADE	2.84	1.89	1.43	1.43	2.42	1.50	2.40
21 FINANCE, INSURANCE & REAL ESTATE	2.86	3.84	1.88	1.65	1.86	0.11	3.18
22 OTHER SERVICE INDUSTRIES	3.98	4.91	3.02	2.87	3.12	1.93	5.10
TOTAL SERVICE INDUSTRIES	3.29	4.65	2.68	2.34	2.89	1.83	3.85
23 GOVERNMENT SECTOR	1.09	1.06	0.98	0.97	0.93	0.89	0.93
TOTAL : ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	2.54	4.02	1.97	1.65	2.08	1.00	2.57

Appendix Table 16.3
REAL DOMESTIC PRODUCT BY INDUSTRY
ONTARIO

(MILLIONS OF 1971 DOLLARS)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	969	933	952	955	968	974	980	986
2 FORESTRY	106	103	101	97	96	96	96	97
3 MINERAL FUEL MINES & WELLS	3	3	3	3	3	3	3	3
4 OTHER MINES & QUARRIES	485	449	432	416	419	410	399	395
5 FOOD, FEEDS, BEVERAGES & TOBACCO	1595	1535	1573	1603	1629	1641	1651	1680
6 TEXTILES & CLOTHING	688	670	675	714	754	785	795	820
7 WOOD & FURNITURE	402	361	363	363	379	382	382	387
8 PAPER, PRINTING & ALLIED INDUSTRIES	1417	1343	1368	1370	1414	1441	1462	1495
9 PRIMARY METAL & METAL FABRICATING	2540	2372	2345	2378	2480	2506	2488	2532
10 MOTOR VEHICLES & PARTS	1836	1750	1702	2018	2158	2210	2159	2165
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	1321	1131	1124	1104	1119	1154	1160	1186
12 ELECTRICAL PRODUCTS	1248	1057	1065	1086	1130	1164	1171	1196
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	1649	1574	1630	1702	1786	1840	1871	1943
14 NON-METALLIC MINERAL PRODUCTS	471	418	420	438	471	471	460	469
15 OTHER MANUFACTURING INDUSTRIES	677	607	621	635	656	672	673	688
TOTAL MANUFACTURING	13844	12816	12885	13411	13976	14266	14273	14560
16 CONSTRUCTION	1817	1862	1834	1722	1872	1844	1772	1790
17 ELECTRIC POWER, WATER & GAS UTILITIES	1304	1257	1316	1382	1452	1508	1553	1614
TOTAL GOODS-PRODUCING INDUSTRIES	18528	17524	17524	17985	18787	19102	18077	19456
18 TRANSPORTATION & STORAGE	1923	1794	1838	1916	1994	2063	2090	2128
19 COMMUNICATION	1718	1688	1800	1845	2114	2275	2424	2593
20 TRADE	5525	5198	5352	5601	5828	6155	6340	6561
21 FINANCE, INSURANCE & REAL ESTATE	6922	7208	7462	7843	8299	8652	8965	9296
22 OTHER SERVICE INDUSTRIES	6567	6395	6606	6979	7377	7721	8009	8322
TOTAL SERVICE INDUSTRIES	22656	22283	23058	24285	25712	26865	27628	28910
23 GOVERNMENT SECTOR	4834	5001	5063	5154	5237	5296	5365	5441
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	48118	44807	45646	47424	49736	51264	52270	53807

Appendix Table 16.3 (cont'd.)
 REAL DOMESTIC PRODUCT BY INDUSTRY
 ONTARIO

(MILLIONS OF 1971 DOLLARS)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING							
2 FORESTRY	1010	1032	1031	1035	1048	1045	1046
3 MINERAL FUEL MINES & WELLS	192	102	102	102	104	104	104
4 OTHER MINES & QUARRIES	383	3	3	4	4	4	4
5 FOOD, FEED, BEVERAGES & TOBACCO	1704	1740	1743	1744	1767	1762	1776
6 TEXTILES & CLOTHING	838	863	871	870	863	863	865
7 WOOD & FURNITURE	393	410	412	417	423	424	426
8 PAPER, PRINTING & ALLIED INDUSTRIES	1530	1582	1595	1619	1648	1657	1664
9 PRIMARY METAL & METAL FABRICATING	2570	2683	2714	2735	2750	2719	2703
10 MOTOR VEHICLES & PARTS	2159	2240	2350	2350	2376	2373	2327
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	1187	1224	1234	1232	1225	1188	1166
12 ELECTRICAL PRODUCTS	1201	1244	1256	1254	1255	1236	1244
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	2005	2101	2150	2186	2235	2242	2276
14 NON-METALLIC MINERAL PRODUCTS	482	516	527	533	537	533	540
15 OTHER MANUFACTURING INDUSTRIES	688	695	685	671	656	628	620
TOTAL MANUFACTURING	14758	15299	15538	15611	15742	15626	15606
16 CONSTRUCTION	1836	1886	2034	2061	2080	2080	2127
17 ELECTRIC POWER, WATER & GAS UTILITIES	1677	1763	1818	1870	1944	1994	2059
TOTAL GOODS-PRODUCING INDUSTRIES	19777	20583	20917	21059	21302	21222	21314
18 TRANSPORTATION & STORAGE	2172	2257	2282	2325	2374	2390	2421
19 COMMUNICATION	2766	2888	3171	3354	3559	3739	3899
20 TRADE	6750	7042	7207	7337	7543	7692	7816
21 FINANCE, INSURANCE & REAL ESTATE	9606	10042	10283	10506	10757	10801	11303
22 OTHER SERVICE INDUSTRIES	8652	9100	9400	9676	10005	10223	10767
TOTAL SERVICE INDUSTRIES	29846	31419	32352	33197	34238	34845	36405
23 GOVERNMENT SECTOR	9517	9593	9667	9742	9815	9886	9957
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	55239	57594	58937	60008	61355	62053	63676

Appendix Table 16.3 (cont'd.)
REAL DOMESTIC PRODUCT BY INDUSTRY
ONTARIO

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	26.18	-3.74	2.08	0.26	1.37	0.64	0.55	1.60
2 FORESTRY	-9.90	-2.92	-1.56	-1.36	1.36	0.64	0.55	1.60
3 MINERAL FUEL MINES & WELLS	-7.89	3.17	3.22	0.20	0.53	3.02	-0.03	1.77
4 OTHER MINES & QUARRIES	-8.15	-7.34	-3.81	-3.58	0.60	-2.05	-2.50	1.18
								-1.02
5 FOOD, FEED, BEVERAGES & TOBACCO	4.38	-3.77	2.48	1.91	1.62	0.74	0.60	1.79
6 TEXTILES & CLOTHING	-1.60	-2.63	0.84	5.67	5.87	4.13	1.23	3.17
7 WOOD & FURNITURE	-7.52	-10.11	0.43	0.04	4.56	0.79	-0.11	1.22
8 PAPER, PRINTING & ALLIED INDUSTRIES	-0.51	-5.24	1.85	0.18	3.21	1.94	1.44	2.22
9 PRIMARY METAL & METAL FABRICATING	7.45	-6.63	-1.15	1.41	4.28	1.06	-0.69	1.73
10 MOTOR VEHICLES & PARTS	4.60	-4.67	-2.71	18.56	6.34	2.39	-2.29	0.24
11 MACHINERY & EQUIPMENT	6.72	-14.35	-0.65	-1.75	1.36	3.08	0.54	2.20
12 ELECTRICAL PRODUCTS	7.10	-15.33	0.77	1.93	4.09	3.00	0.58	2.19
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	1.80	-4.60	3.56	4.46	4.91	3.02	1.70	3.84
14 NON-METALLIC MINERAL PRODUCTS	0.57	-11.35	0.55	4.23	7.47	0.04	-2.35	2.11
15 OTHER MANUFACTURING INDUSTRIES	5.39	-10.38	2.38	2.23	3.24	2.47	0.24	2.15
TOTAL MANUFACTURING	3.77	-7.42	0.54	4.08	4.21	2.08	0.05	2.01
16 CONSTRUCTION	7.57	8.00	-6.52	-6.12	8.74	-1.53	-3.89	1.01
17 ELECTRIC POWER, WATER & GAS UTILITIES	7.17	-3.63	4.70	4.97	5.07	3.92	2.96	3.94
TOTAL GOODS-PRODUCING INDUSTRIES	4.90	-5.42	0.00	2.63	4.46	1.67	-0.13	1.99
18 TRANSPORTATION & STORAGE	2.36	-6.70	2.42	4.27	4.07	3.47	1.20	1.82
19 COMMUNICATION	7.79	-1.77	6.64	8.07	8.65	7.63	6.54	6.98
20 TRADE	1.26	-5.92	2.97	4.66	5.83	3.82	3.01	3.48
21 FINANCE, INSURANCE & REAL ESTATE	3.75	4.13	3.53	5.10	5.82	4.25	3.61	3.69
22 OTHER SERVICE INDUSTRIES	6.88	-2.62	3.30	5.64	5.70	4.66	3.74	4.03
TOTAL SERVICE INDUSTRIES	4.21	-1.64	3.48	5.32	5.88	4.49	3.58	3.89
23 GOVERNMENT SECTOR	0.42	1.35	1.25	1.80	1.60	1.14	1.31	1.42
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	4.06	-2.84	1.87	3.89	4.88	3.07	1.96	2.94

Appendix Table 16.3 (cont'd.)
REAL DOMESTIC PRODUCT BY INDUSTRY
ONTARIO

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING	1.46	2.16	-0.07	0.38	1.27	-0.30	0.03
2 FORESTRY	1.47	3.50	0.18	0.72	1.00	-0.24	-0.11
3 MINERAL FUEL MINES & WELLS	0.0	1.73	1.51	1.30	5.91	4.95	6.36
4 OTHER MINES & QUARRIES	-0.68	1.41	-1.31	-1.38	-1.31	-2.81	-3.03
5 FOOD, FEED, BEVERAGES & TOBACCO	1.43	2.10	0.18	0.08	1.33	-0.30	0.79
6 TEXTILES & CLOTHING	2.28	2.98	0.90	-0.15	0.12	-0.81	0.19
7 WOOD & FURNITURE	1.67	4.25	0.68	1.06	1.37	0.29	0.46
8 PAPER, PRINTING & ALLIED INDUSTRIES	2.35	3.40	0.82	1.52	1.80	0.54	0.40
9 PRIMARY METAL & METAL FABRICATING	1.51	4.40	1.14	0.78	0.57	-1.13	-0.60
10 MOTOR VEHICLES & PARTS	-0.26	3.77	4.82	-0.04	1.11	-0.12	-1.83
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	0.08	3.14	0.78	-0.15	-0.57	-3.01	-1.86
12 ELECTRICAL PRODUCTS	0.43	2.55	0.92	-0.11	0.07	-1.47	0.63
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	3.20	4.80	2.34	1.67	2.20	0.33	1.52
14 NON-METALLIC MINERAL PRODUCTS	2.63	7.01	2.18	1.25	0.73	-0.81	1.25
15 OTHER MANUFACTURING INDUSTRIES	0.07	1.00	-1.40	-2.16	-2.24	-4.16	-1.38
TOTAL MANUFACTURING	1.36	3.66	1.56	0.47	0.84	-0.74	-0.13
16 CONSTRUCTION	2.58	8.13	2.44	1.34	0.90	-0.01	2.29
17 ELECTRIC POWER, WATER & GAS UTILITIES	3.88	5.11	3.11	2.88	3.94	2.59	3.77
TOTAL GOODS-PRODUCING INDUSTRIES	1.65	4.08	1.62	0.73	1.10	-0.38	0.43
18 TRANSPORTATION & STORAGE	2.05	2.93	1.53	1.43	2.11	0.69	1.29
19 COMMUNICATION	4.03	8.12	6.12	5.76	5.12	5.07	2.94
20 TRADE	3.88	4.73	2.34	1.48	3.81	1.97	3.68
21 FINANCE, INSURANCE & REAL ESTATE	3.34	4.44	2.50	2.17	2.28	1.24	3.68
22 OTHER SERVICE INDUSTRIES	3.84	5.18	3.30	2.94	3.40	2.19	5.32
TOTAL SERVICE INDUSTRIES	3.58	4.82	3.97	2.81	3.13	2.07	4.18
23 GOVERNMENT SECTOR	1.39	1.37	1.34	1.31	1.28	1.22	1.20
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	2.66	4.26	2.33	1.82	2.24	1.14	2.61

Appendix Table 16.4

REAL DOMESTIC PRODUCT BY INDUSTRY
ALBERTA

(MILLIONS OF 1971 DOLLARS)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	656	636	655	642	676	686	686	712
2 FORESTRY	14	14	14	13	13	13	13	14
3 MINERAL FUEL MINES & WELLS	1158	1195	1234	1191	1179	1181	1177	1146
4 OTHER MINES & QUARRIES	267	259	262	265	280	288	283	304
5 FOOD, FEED, BEVERAGES & TOBACCO	226	218	226	231	236	239	242	248
6 TEXTILES & CLOTHING	27	26	26	28	28	30	30	31
7 WOOD & FURNITURE	83	86	88	90	97	100	102	105
8 PAPER, PRINTING & ALLIED INDUSTRIES	146	143	152	157	168	170	181	187
9 PRIMARY METAL & METAL FABRICATING	217	203	211	221	238	248	254	267
10 MOTOR VEHICLES & PARTS	24	22	22	27	28	29	29	29
11 MACHINERY & OTM. TRANSPORTATION EQUIP.	116	106	112	117	126	137	145	152
12 ELECTRICAL PRODUCTS	22	19	20	20	22	23	24	25
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	228	221	232	246	261	273	282	297
14 NON-METALLIC MINERAL PRODUCTS	127	116	121	130	145	149	150	158
15 OTHER MANUFACTURING INDUSTRIES	20	19	19	20	21	22	23	24
TOTAL MANUFACTURING	1246	1178	1229	1287	1371	1429	1468	1537
16 CONSTRUCTION	1897	1613	1594	1652	1858	1897	1890	1935
17 ELECTRIC POWER, WATER & GAS UTILITIES	326	320	340	362	386	408	426	450
TOTAL GOODS-PRODUCING INDUSTRIES	5564	5217	5326	5433	5765	5912	5983	6088
18 TRANSPORTATION & STORAGE	1143	1069	1104	1159	1214	1264	1289	1321
19 COMMUNICATION	904	892	954	1031	1121	1208	1288	1379
20 TRADE	1727	1620	1711	1800	1917	2007	2082	2170
21 FINANCE, INSURANCE & REAL ESTATE	1579	1574	1654	1748	1860	1953	2034	2122
22 OTHER SERVICE INDUSTRIES	1918	1909	2000	2122	2254	2374	2476	2591
TOTAL SERVICE INDUSTRIES	7271	7074	7423	7859	8385	8806	9170	9584
23 GOVERNMENT SECTOR	1440	1506	1559	1596	1632	1666	1700	1738
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	14275	13798	14308	14887	15761	16384	16833	17421

INSTITUTE FOR POLICY ANALYSIS. UNIVERSITY OF TORONTO
PRISMSEA *** REVISED LG-TREND BASE CASE *** SEPT/82

Appendix Table 16.4 (cont'd.)
REAL DOMESTIC PRODUCT BY INDUSTRY
ALBERTA

(MILLIONS OF 1971 DOLLARS)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING	728	750	795	764	779	782	788
2 FORESTRY	14	15	15	15	16	16	16
3 MINERAL FUEL MINES & WELLS	1124	1143	1143	1192	1265	1305	1353
4 OTHER MINES & QUARRIES	317	336	344	354	364	368	372
5 FOOD, FEED, BEVERAGES & TOBACCO	253	260	263	285	271	273	277
6 TEXTILES & CLOTHING	31	32	32	32	32	31	31
7 WOOD & FURNITURE	110	117	120	124	128	132	135
8 PAPER, PRINTING & ALLIED INDUSTRIES	208	223	232	243	255	265	274
9 PRIMARY METAL & METAL FABRICATING	279	299	311	323	333	338	345
10 MOTOR VEHICLES & PARTS	29	30	31	31	32	32	31
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	165	172	189	198	206	208	214
12 ELECTRICAL PRODUCTS	35	37	40	42	46	48	49
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	311	331	343	364	367	373	384
14 NON-METALLIC MINERAL PRODUCTS	167	184	194	202	209	213	221
15 OTHER MANUFACTURING INDUSTRIES	24	25	25	25	25	24	24
TOTAL MANUFACTURING	1602	1706	1758	1824	1886	1917	1966
16 CONSTRUCTION	2035	2272	2369	2451	2580	2644	2771
17 ELECTRIC POWER, WATER & GAS UTILITIES	474	506	529	553	583	607	639
TOTAL GOODS-PRODUCING INDUSTRIES	6294	6728	6923	7162	7472	7639	7806
18 TRANSPORTATION & STORAGE	1358	1422	1453	1485	1528	1551	1583
19 COMMUNICATION	1773	1984	1993	1994	1908	2008	2153
20 TRADE	2153	2366	2445	2517	2621	2707	2826
21 FINANCE, INSURANCE & REAL ESTATE	2206	2350	2386	2469	2553	2613	2739
22 OTHER SERVICE INDUSTRIES	2706	2865	2981	3084	3228	3332	3547
TOTAL SERVICE INDUSTRIES	8994	10568	10968	11260	11840	12211	12848
23 GOVERNMENT SECTOR	1777	1818	1881	1908	1958	2010	2065
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	18064	19114	19752	20428	21270	21860	22818

Appendix Table 16.4 (cont'd.)

REAL DOMESTIC PRODUCT BY INDUSTRY
ALBERTA

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	7.99	-2.94	2.90	1.07	2.19	1.44	1.44	2.39
2 FORESTRY	-1.10	-1.88	-0.50	-3.66	2.45	-0.59	1.05	2.26
3 MINERAL FUEL MINES & WELLS	-7.99	3.17	3.22	-3.43	1.00	1.03	-2.61	-2.61
4 OTHER MINES & QUARRIES	-1.86	-2.81	0.96	1.23	-5.60	2.78	2.03	3.71
5 FOOD, FEED, BEVERAGES & TOBACCO	4.50	-3.19	2.38	2.24	2.32	1.36	1.16	2.28
6 TEXTILES & CLOTHING	-6.61	-3.35	0.10	4.90	4.92	3.40	0.53	2.48
7 WOOD & FURNITURE	-7.42	-7.95	2.81	2.39	6.99	3.11	2.17	3.51
8 PAPER, PRINTING & ALLIED INDUSTRIES	-1.09	-4.53	5.75	3.82	6.98	5.59	4.99	5.73
9 PRIMARY METAL & METAL FABRICATING	-1.99	-7.61	4.00	4.83	7.71	4.29	2.41	4.83
10 MOTOR VEHICLES & PARTS	5.28	-7.61	-4.47	20.10	7.13	2.58	-2.11	0.42
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	-10.21	-8.69	3.16	4.26	7.35	8.97	6.11	7.68
12 ELECTRICAL PRODUCTS	19.68	-12.22	3.19	4.31	6.45	5.26	2.73	4.31
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	-5.39	-3.21	5.07	7.79	6.45	4.93	3.19	5.39
14 NONMETALLIC MINERAL PRODUCTS	2.56	-8.19	4.03	7.79	11.02	3.26	0.72	5.29
15 OTHER MANUFACTURING INDUSTRIES	14.63	-8.50	4.48	4.29	5.28	4.45	2.14	4.09
TOTAL MANUFACTURING	-0.61	-5.31	4.17	4.78	6.53	4.19	2.70	4.70
16 CONSTRUCTION	10.10	-14.96	-1.23	3.67	12.45	2.09	-0.37	2.40
17 ELECTRIC POWER, WATER & GAS UTILITIES	-1.36	-2.11	5.23	6.60	6.69	5.52	4.53	5.52
TOTAL GOODS-PRODUCING INDUSTRIES	1.88	-6.24	2.09	2.01	6.11	2.86	0.87	2.26
18 TRANSPORTATION & STORAGE	2.41	-6.42	3.27	4.90	4.77	4.17	1.98	2.47
19 COMMUNICATION	6.51	-4.52	6.94	8.11	8.70	7.77	6.64	7.10
20 TRADE	5.21	-5.53	4.96	5.20	6.47	4.73	3.71	4.26
21 FINANCE, INSURANCE & REAL ESTATE	5.70	-0.22	5.11	5.65	6.44	4.97	4.19	4.33
22 OTHER SERVICE INDUSTRIES	9.91	-0.50	4.78	6.09	6.22	5.36	4.29	4.63
TOTAL SERVICE INDUSTRIES	6.70	-2.71	4.94	5.87	6.44	5.28	4.13	4.52
23 GOVERNMENT SECTOR	4.75	4.70	3.28	2.38	2.27	2.08	2.05	2.23
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	4.58	-3.34	3.69	4.05	5.87	3.95	2.74	3.49

Appendix Table 16.4 (cont'd.)
REAL DOMESTIC PRODUCT BY INDUSTRY
ALBERTA

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING	2.24	2.94	0.68	1.14	2.02	0.43	0.76
2 FORESTRY	2.56	4.63	1.26	1.80	2.08	0.84	0.97
3 MINERAL FUEL MINES & WELLS	-1.98	1.73	-0.03	4.28	6.13	3.14	3.74
4 OTHER MINES & QUARRIES	3.98	6.08	2.48	2.98	2.78	1.18	0.85
5 FOOD, FEED, BEVERAGES & TOBACCO	2.08	2.97	0.83	0.91	2.22	0.56	1.70
6 TEXTILES & CLOTHING	1.99	2.26	0.23	-0.80	-0.53	-1.58	-0.48
7 WOOD & FURNITURE	3.95	6.57	2.90	3.27	3.57	2.48	2.60
8 PAPER, PRINTING & ALLIED INDUSTRIES	5.80	6.81	4.08	4.76	4.98	6.53	3.44
9 PRIMARY METAL & METAL FABRICATING	4.54	7.44	4.02	3.58	3.32	1.53	2.01
10 MOTOR VEHICLES & PARTS	-0.07	3.95	5.11	0.15	1.29	0.07	-1.76
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	5.32	8.38	5.76	4.66	4.11	1.46	2.57
12 ELECTRICAL PRODUCTS	2.45	5.59	2.86	1.76	1.89	0.28	2.38
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	4.70	6.31	3.80	3.12	3.64	1.73	2.32
14 NON-METALLIC MINERAL PRODUCTS	5.71	10.16	5.13	4.11	3.52	1.89	3.95
15 OTHER MANUFACTURING INDUSTRIES	1.90	2.81	0.33	-0.47	-0.57	-2.56	0.24
TOTAL MANUFACTURING	4.28	6.49	3.60	3.18	3.41	1.66	2.54
16 CONSTRUCTION	5.16	11.65	4.26	3.88	4.85	2.47	4.82
17 ELECTRIC POWER, WATER & GAS UTILITIES	5.45	6.68	4.64	4.40	5.47	4.09	5.28
TOTAL GOODS-PRODUCING INDUSTRIES	3.21	6.88	2.90	3.46	4.33	2.23	3.49
18 TRANSPORTATION & STORAGE	2.76	4.70	2.22	2.21	2.91	1.48	2.08
19 COMMUNICATION	6.79	8.17	6.27	5.94	6.34	5.28	7.19
20 TRADE	3.66	5.22	3.28	2.94	4.11	3.28	4.38
21 FINANCE, INSURANCE & REAL ESTATE	3.96	5.17	3.25	3.06	3.40	2.35	4.82
22 OTHER SERVICE INDUSTRIES	4.45	5.88	4.02	3.80	4.28	3.17	6.44
TOTAL SERVICE INDUSTRIES	4.27	5.76	3.78	3.57	4.23	3.14	5.21
23 GOVERNMENT SECTOR	2.22	2.33	2.34	2.53	2.66	2.63	2.75
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	3.68	5.81	3.33	3.43	4.12	2.77	4.38

INSTITUTE FOR POLICY ANALYSIS, UNIVERSITY OF TORONTO
PRISMEXA *** REVISED LO-TREND BASE CASE *** SEPT/82

Appendix Table 16.5

REAL DOMESTIC PRODUCT BY INDUSTRY
BRITISH COLUMBIA

(MILLIONS OF 1971 DOLLARS)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	236	229	237	240	246	250	254	261
2 FORESTRY	403	253	368	387	416	434	442	455
3 MINERAL FUEL MINES & WELLS	129	123	137	186	187	192	197	200
4 OTHER MINES & QUARRIES	203	195	185	185	203	207	208	216
5 FOOD, FEED, BEVERAGES & TOBACCO	264	254	262	268	274	277	280	286
6 TEXTILES & CLOTHING	32	32	32	34	36	38	39	40
7 WOOD & FURNITURE	627	568	576	581	613	623	628	641
8 PAPER, PRINTING & ALLIED INDUSTRIES	542	525	547	560	580	615	637	665
9 PRIMARY METAL & METAL FABRICATING	307	278	281	286	300	304	304	310
10 MOTOR VEHICLES & PARTS	49	46	47	57	63	66	66	68
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	178	158	163	166	175	187	194	206
12 ELECTRICAL PRODUCTS	31	26	26	27	28	29	29	29
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	148	125	153	163	175	183	190	201
14 NON-METALLIC MINERAL PRODUCTS	80	72	74	78	86	88	87	91
15 OTHER MANUFACTURING INDUSTRIES	28	26	26	27	28	28	28	29
TOTAL MANUFACTURING	2287	2130	2187	2249	2367	2438	2482	2567
16 CONSTRUCTION	998	894	929	1083	1206	1195	1163	1204
17 ELECTRIC POWER, WATER & GAS UTILITIES	4.3	454	484	517	553	585	613	648
TOTAL GOODS-PRODUCING INDUSTRIES	4717	4289	4536	4857	5179	5302	5360	5548
18 TRANSPORTATION & STORAGE	1483	1362	1401	1484	1579	1638	1684	1699
19 COMMUNICATION	819	806	862	932	1013	1093	1166	1249
20 TRADE	1845	1802	1875	1870	2098	2201	2287	2384
21 FINANCE, INSURANCE & REAL ESTATE	1874	1838	2021	2131	2265	2379	2480	2584
22 OTHER SERVICE INDUSTRIES	2056	2021	2104	2230	2368	2498	2608	2728
TOTAL SERVICE INDUSTRIES	8259	7920	8263	8755	9323	9806	10206	10646
23 GOVERNMENT SECTOR	1660	1704	1744	1783	1823	1865	1907	1949
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	14636	14022	14544	15386	16225	16974	17473	18143

Appendix Table 16.5 (cont'd.)

REAL DOMESTIC PRODUCT BY INDUSTRY
BRITISH COLUMBIA

(MILLIONS OF 1971 DOLLARS)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING	268	276	279	283	289	291	294
2 FORESTRY	470	499	504	517	531	539	548
3 MINERAL FUEL MINES & WELLS	300	303	313	322	338	342	348
4 OTHER MINES & QUARRIES	320	322	329	341	345	347	348
5 FOOD, FEED, BEVERAGES & TOBACCO	391	399	390	392	397	397	391
6 TEXTILES & CLOTHING	41	43	43	44	44	43	44
7 WOOD & FURNITURE	698	692	703	717	733	741	751
8 PAPER & PRINTING	695	734	755	782	813	834	854
9 PRIMARY METAL & ALLIED INDUSTRIES	310	312	327	341	352	362	372
10 MOTOR VEHICLES & PARTS	210	214	217	224	231	232	235
11 MACHINERY & OTH. TRANSPORTATION EQUIP.	213	217	227	242	251	252	255
12 ELECTRICAL PRODUCTS	39	30	30	30	30	29	29
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	311	325	329	343	353	358	367
14 NON-METALLIC MINERAL PRODUCTS	95	103	107	111	113	115	118
15 OTHER MANUFACTURING INDUSTRIES	39	39	39	38	38	36	36
TOTAL MANUFACTURING	2649	2788	2896	2923	3000	3034	3083
16 CONSTRUCTION	1265	1402	1472	1528	1580	1619	1697
17 ELECTRIC POWER, WATER & GAS UTILITIES	685	723	768	804	849	886	935
TOTAL GOODS-PRODUCING INDUSTRIES	5757	6129	6328	6528	6683	6832	7033
18 TRANSPORTATION & STORAGE	1740	1814	1847	1879	1925	1944	1976
19 COMMUNICATION	1334	1444	1534	1625	1728	1818	1948
20 TRADE	2471	2597	2678	2749	2850	2930	3042
21 FINANCE, INSURANCE & REAL ESTATE	2684	2817	2903	2982	3070	3128	3263
22 OTHER SERVICE INDUSTRIES	2848	3013	3130	3241	3371	3466	3675
TOTAL SERVICE INDUSTRIES	11077	11685	12082	12478	12843	13287	13904
23 GOVERNMENT SECTOR	1981	2035	2078	2124	2170	2216	2284
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	18824	19848	20498	21130	21807	22335	23201

Appendix Table 16.5 (cont'd.)
 REAL DOMESTIC PRODUCT
 BY SECTOR
 BRITISH COLUMBIA

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1981	1982	1983	1984	1985	1986	1987	1988
1 AGRICULTURE, FISHING & TRAPPING	41.21	-2.66	3.19	1.36	2.47	1.72	1.71	2.66
2 FORESTRY	-1.80	-12.38	4.32	5.19	7.47	4.31	1.76	2.97
3 MINERAL FUEL MINES & WELLS	-7.97	3.17	3.22	35.47	0.53	3.02	2.50	1.18
4 OTHER MINES & QUARRIES	-2.87	-3.78	-0.14	0.07	4.38	1.61	0.90	2.63
5 FOOD, FEED, BEVERAGES & TOBACCO	4.16	-2.83	3.08	2.64	2.09	1.10	0.98	3.15
6 TEXTILES & CLOTHING	3.88	-2.07	1.40	6.25	6.24	4.89	1.77	3.70
7 WOOD & FURNITURE	1.81	-9.31	1.32	0.93	5.49	1.68	0.78	2.11
8 PAPER, PRINTING & ALLIED INDUSTRIES	-0.03	-3.12	4.12	2.38	5.46	4.15	3.62	4.40
9 PRIMARY METAL & METAL FABRICATING	-1.89	-9.32	0.97	1.87	4.75	1.51	-0.24	2.19
10 AUTOMOBILES & PARTS	14.90	-5.07	1.16	23.22	9.85	5.11	0.24	2.78
11 MACHINERY & EQUIPMENT	17.24	-11.08	3.12	1.92	5.08	6.83	4.15	5.81
12 ELECTRICAL, ELECTRONIC & TRANSPORTATION EQUIP.	10.48	-19.75	0.28	1.45	3.60	2.52	0.12	1.73
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	3.78	-2.61	5.68	6.56	6.99	5.03	3.65	5.80
14 NON-METALLIC MINERAL PRODUCTS	-8.44	-9.61	2.50	6.24	9.53	1.93	-0.51	4.01
15 OTHER MANUFACTURING INDUSTRIES	6.98	-10.38	2.38	2.23	3.24	2.47	0.24	2.15
TOTAL MANUFACTURING	0.18	-6.83	2.64	2.84	5.28	3.00	1.80	3.39
16 CONSTRUCTION	-2.36	-10.39	3.84	16.64	11.38	-0.93	-2.70	3.51
17 ELECTRIC POWER, WATER & GAS UTILITIES	10.50	-1.85	6.61	8.87	6.86	5.77	4.77	5.76
TOTAL GOODS-PRODUCING INDUSTRIES	1.47	-6.96	3.35	7.06	6.64	2.37	1.10	3.51
18 TRANSPORTATION & STORAGE	2.33	-6.89	2.87	6.63	5.69	3.76	1.60	2.11
19 COMMUNICATION	8.26	-1.54	6.85	8.12	8.75	7.85	6.72	7.13
20 TRADE	3.33	-7.34	4.06	5.04	6.48	4.92	3.94	4.24
21 FINANCE, INSURANCE & REAL ESTATE	5.07	-1.83	4.27	5.42	6.33	5.00	4.25	4.21
22 OTHER SERVICE INDUSTRIES	8.50	-1.80	4.11	5.95	6.21	5.48	4.44	4.59
TOTAL SERVICE INDUSTRIES	9.29	-3.09	4.20	5.95	6.48	5.20	4.06	4.30
23 GOVERNMENT SECTOR	2.37	2.61	2.39	2.19	2.27	2.27	2.27	2.19
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	3.72	-4.20	3.72	5.85	6.04	3.98	2.94	3.83

Appendix Table 16.5 (cont'd.)
REAL DOMESTIC PRODUCT BY INDUSTRY
BRITISH COLUMBIA

(YEAR-OVER-YEAR PER-CENT CHANGE)

	1989	1990	1991	1992	1993	1994	1995
1 AGRICULTURE, FISHING & TRAPPING	2.51	3.20	0.94	1.39	2.27	0.68	1.00
2 FORESTRY	3.26	5.32	1.93	2.47	2.75	1.48	1.61
3 MINERAL FUEL MINES & WELLS	0.0	1.73	4.82	9.25	-14.96	8.77	6.36
4 OTHER MINES & QUARRIES	2.86	5.10	1.62	2.24	2.14	0.65	0.40
5 FOOD, FEED, BEVERAGES & TOBACCO	1.84	2.54	0.95	0.50	1.68	0.16	1.23
6 TEXTILES & CLOTHING	2.81	3.47	1.41	0.35	0.61	-0.43	0.66
7 WOOD & FURNITURE	2.37	5.17	1.97	1.95	2.26	1.18	1.35
8 PAPER, PRINTING & ALLIED INDUSTRIES	4.91	5.56	2.91	3.61	3.87	2.57	2.12
9 PRIMARY METAL & METAL FABRICATING	1.97	4.87	1.60	1.23	1.03	-0.68	-0.15
10 MOTOR VEHICLES & PARTS	2.22	6.28	7.41	2.29	2.42	2.20	1.22
11 MACHINERY & OTM, TRANSPORTATION EQUIP.	3.99	6.70	4.22	-2.21	-0.35	0.20	1.35
12 ELECTRICAL PRODUCTS	-0.02	3.10	0.48	-0.39	-0.88	-0.88	0.22
13 CHEMICAL, RUBBER & PETROLEUM PRODUCTS	5.13	6.72	4.19	3.09	3.01	2.08	3.27
14 NON-METALLIC MINERAL PRODUCTS	4.52	8.87	4.19	3.07	2.53	0.95	3.03
15 OTHER MANUFACTURING INDUSTRIES	0.07	1.00	-1.40	-2.16	-2.24	-4.16	-1.38
TOTAL MANUFACTURING	3.21	5.27	2.44	2.34	2.62	1.15	1.61
16 CONSTRUCTION	9.12	10.80	4.87	3.85	3.39	2.45	4.81
17 ELECTRIC POWER, WATER & GAS UTILITIES	5.68	6.92	4.87	4.62	5.69	4.30	5.48
TOTAL GOODS-PRODUCING INDUSTRIES	3.76	6.46	3.25	3.17	2.53	2.07	2.85
18 TRANSPORTATION & STORAGE	2.37	4.26	1.83	1.77	2.41	1.02	1.63
19 COMMUNICATION	6.82	8.19	6.28	5.94	6.30	5.25	7.14
20 TRADE	3.82	5.12	3.12	2.66	3.64	2.82	3.84
21 FINANCE, INSURANCE & REAL ESTATE	3.84	4.98	3.03	2.74	2.94	1.80	4.20
22 OTHER SERVICE INDUSTRIES	4.40	5.77	3.86	3.57	4.01	2.81	6.01
TOTAL SERVICE INDUSTRIES	4.05	5.48	3.48	3.19	3.73	2.66	4.64
23 GOVERNMENT SECTOR	2.16	2.19	2.16	2.20	2.15	2.12	2.16
TOTAL: ALL SECTORS (GROSS PROV. PRODUCT AT FACTOR COST - REAL)	3.76	5.44	3.28	3.08	3.20	2.42	3.88

List of tables

Chapter 2: The national outlook - FOCUS

- 1 National outlook assumptions 4
- 2 Provinces - major projects 5
- 3 National projection - summary
Revised low-trend (per cent) 8
- 4 Components of real GNP - growth rates 10

Chapter 3: National industrial detail - PRISM

- 5 Growth rates by industry - Canada 14

Chapter 4: Provincial projection - PRISM

- 6 Real output shares by province 25
- 7 Labour productivity by province: all industries (per cent deviation from national) 28
- 8 Productivity - manufacturing (per cent deviation from national) 29
- 9 Productivity - goods producing (per cent deviation from national) 30
- 10 Growth of labour-force source population 33

Chapter 5: Provincial projection: overview of results

- 11 Growth rates of real output by province 37
- 12 Growth rates of GDP deflators by province 39
- 13 Shares of nominal GDP - by province 40
- 14 Unemployment rates - by province 41
- 15 Ratio of real disposable income per capita to national 43

- 16 Growth rates of real personal disposable income per capita - by province 45

Chapter 6: Results by province

- 17 Real GDP and GDP deflators by province 47
18 Employment and unemployment rates by province 51

Appendix - Tables 60

National

- 1 Summary of national projection
2 GNP in constant dollars
3 GNP deflators
4 Balance of payments
5 Labour market
6 Federal government
7 Combined public sector
8 National and personal income
9 Sources and disposition of saving

Energy

- 10 Oil and gas: production, demand, prices
11 Oil and gas: trade and price summary

Industrial Detail

- 12 RDP by industry
13 Employment by industry
14 Productivity by industry

Provincial Detail

- 15.1 - 15.10 Summary by province
16.1 - 16.5 Output by industry (selected provinces)

List of figures

Chapter 2: The national outlook - FOCUS

- 1 Canada: main indicators 9
- 2 Expenditure shares of GNP 11

Chapter 3: National industrial detail - PRISM

- 3 Shares of major industry groups in total output 15

Chapter 4: Provincial projection - PRISM

- 4 Output shares by province - other mining 19
- 5 Output shares by province - mineral fuels 20
- 6 Output shares by province - pulp and paper 21
- 7 Output shares by province - primary metal and metal fabricating 22
- 8 Output shares by province - construction 23
- 9 Output shares by province - chemicals and petroleum 24
- 10 Output shares by province - manufacturing 26
- 11 Output shares by province - goods producing 27
- 12 Productivity - ratio to national average 32
- 13 Population by region 34

Chapter 5: Provincial projection: overview of results

- 14 Share of total output - by regions 36
- 15 Output growth - by region 38
- 16 Unemployment rates - by region 42
- 17 Real personal disposable income per capita - ratio to national average 44

Ontario Economic Council Policy Studies

Universal or Selective? the debate on reforming income security in Canada
Michael Mendelson

Rent Control and Options for Decontrol in Ontario
Richard Arnott/Nigel Johnston

The Ontario Economy 1982-1995
Peter Dungan and Douglas Crocker and Gay M. Garesché

Copies of this publication are available at a nominal charge from the Ontario Government Bookstore, 860 Bay Street, Toronto, for personal shopping. Out-of-town customers should write to Publications Services Section, 5th Floor, 860 Bay Street, Toronto, Ontario, M7A 1N8. Telephone 968-8015. Toll-free long distance 1-800-268-7540; in North Western Ontario 0-Zenith 6-7200.

ISSN 0227-0006

ISBN Volume II: 0-7743-8096-9

ISBN Volume II: 0-7743-8096-0